FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

FEBRUARY, 1949

Firemen Fight Flaming Gusher at Santa Fe Springs, Calif. Fire started just as well came in.

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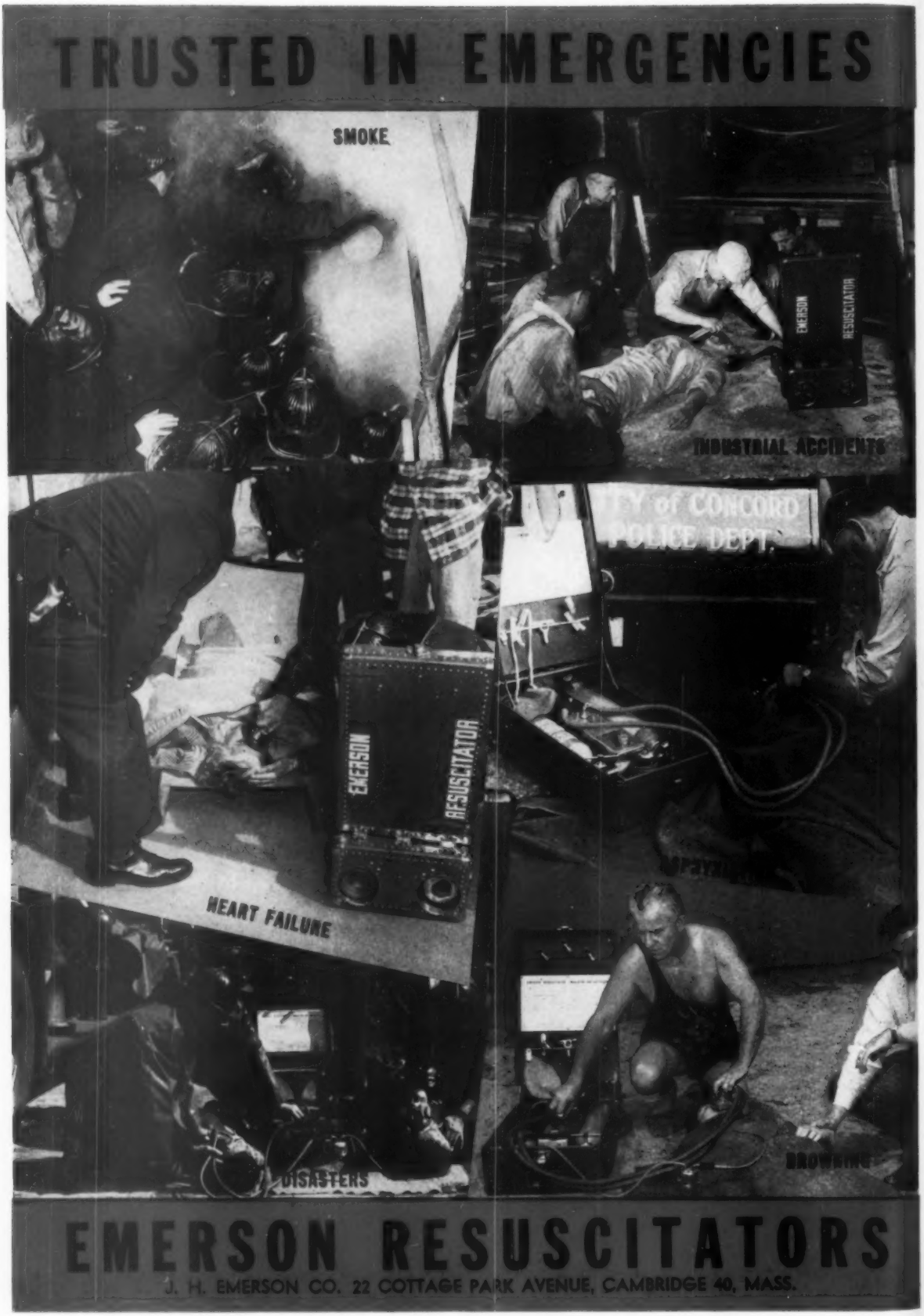
A CASE - SHEPPERD - MANN PUBLICATION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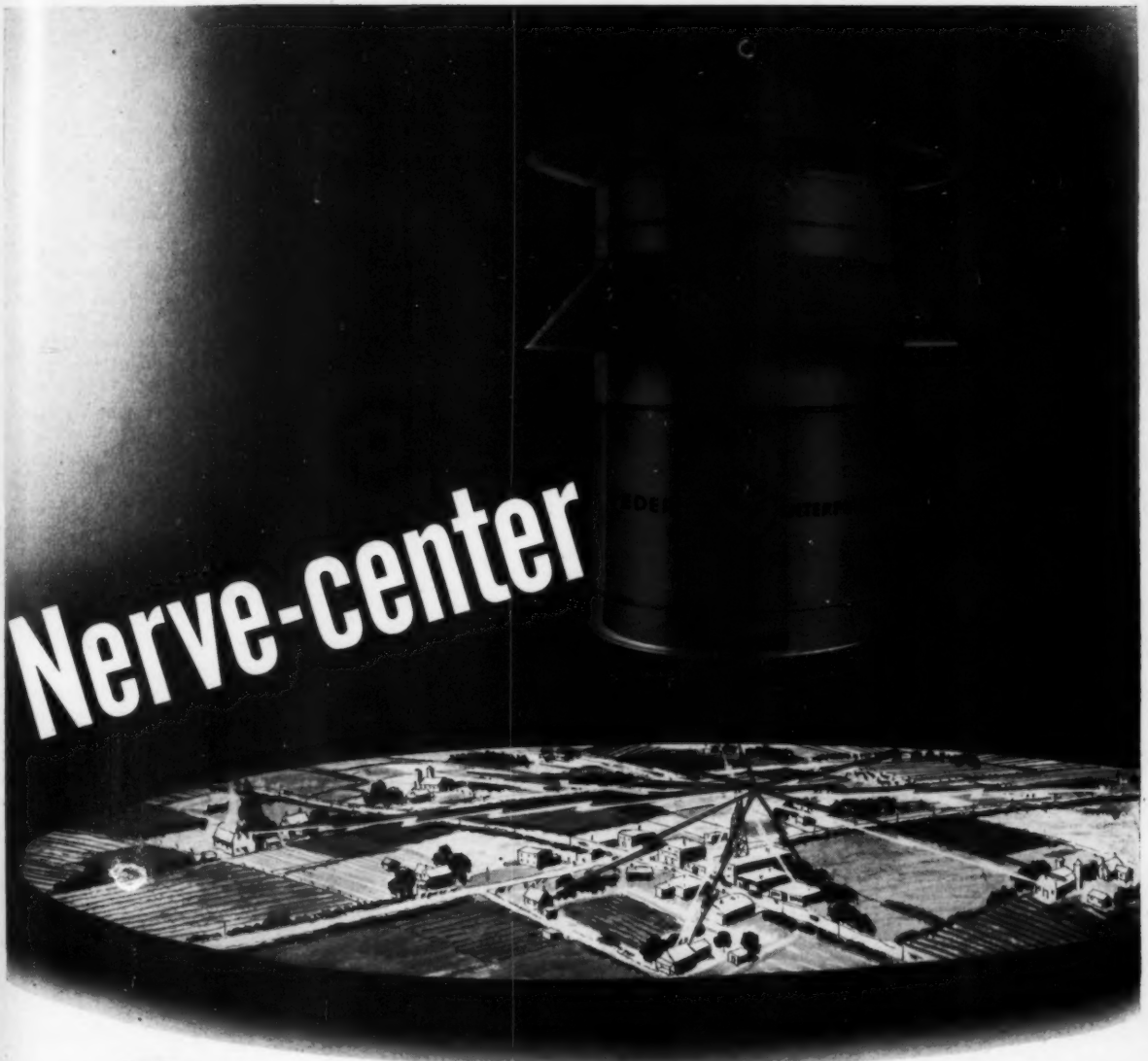

Property is valuable. Lives are irreplaceable. Where both are at stake, nothing but the best is good enough. The alarm must promptly alert—must work surely every time—must be the ultra responsive nerve center of your protection system.

Be sure your signal is dependable. Located as it is, subject to heat and dust, rain, sleet, and snow, it should be tested daily as a time signal. At any suspicion of weakness, it deserves immediate attention and worn equipment should be replaced at once.

Now is the time to replace the old, worn-out signal with a new all-powerful, dependable Federal Siren, precision-built in weather-proof housing and durably constructed for extra long life. Federal Vertical Sirens are built with motors especially designed for alarm service. They are exceptional in pick-up, tone power and general performance. Don't risk lives with an inadequate alarm when a moderate expenditure will replace it with a dependable world-renowned Federal Vertical Siren alarm system. A variety of standard models is available. Write for literature.

Make your next siren a **FEDERAL VERTICAL SIREN**

FEDERAL ENTERPRISES, INC.

FORMERLY: FEDERAL ELECTRIC COMPANY, INC.

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

"Kilroy Was Here" — So Was FIRE ENGINEERING

LAST month the 21st Fire Department Instructors Conference was held at Memphis, Tenn. There, for four days (and nights) over 730 fire officers, instructors, engineers and safety experts who are responsible for the training of the nation's fire forces literally and figuratively "went to school" themselves.

● A part of that story is described in this issue of FIRE ENGINEERING. However, one thing the account fails to mention: it is doubtful if there was one single registrant at that Conference who doesn't look to and consider this journal his fire protection and fire prevention 'bible.'

● For 67 years FIRE ENGINEERING has in spirit, if not in fact, been at all important gatherings of important people in and related to the fire service. In fire house and fire college, in association conference and convention; wherever men who shape the policies, plans and programs of the fire service meet—there you'll find FIRE ENGINEERING read, re-read, referred to and quoted as "the authoritative journal of the fire service."

● Such acceptance by readers and advertisers alike is indeed a priceless heritage!

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering, Sewage Works Engineering*, etc. ¶Subscription price: U. S., Latin America and Canada, $3.00 a year; Foreign, $4.00; Single copies, 35c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879. ¶Contents of this issue copyrighted, 1949, by Case-Shepperd-Mann Publishing Corp. President and Advertising Director, KARL M. MANN; Vice-President and General Manager, I. HERBERT CASE; Secretary and Editorial Director, FRED SHEPPERD; Assistant Advertising Director, WALTER H. FREDRICKS; Eastern Representative, ALFRED J. HOUGHTON; Advertising Manager, WILLIAM J. GIBSON; Circulation Manager, W. H. TOPHAM. CHICAGO OFFICE: W. S. CLEVENGER and L. M. ROCHE, 8 So. Dearborn St., Chicago 3, Ill.; SAN FRANCISCO: CHARLES H. WOOLLEY, 605 Market Street, San Francisco 5, Calif.; LOS ANGELES: AUGUST HAUHN, 6000 Miramonte Blvd., Los Angeles 1, Calif. ¶Printed in U. S. A.

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"Specialized Leadership"

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Hundreds of units sold—every user satisfied

TYPICAL JOHN BEAN High-Pressure Fog Fire Fighter, recently delivered to Galveston Fire Department, Galveston, Texas. Bean units carry their own water supply—provide two guns of 30 gallons each—850 lbs. pump pressure. Delivered complete with all accessories.

Imitations have costly limitations

A John Bean High-Pressure Fog Fire Fighter is adaptable to every community, regardless of size or water supply.

NO WATER DAMAGE. Bean High-Pressure Fog extinguishes fires with practically no water damage.

PUTS FIRES OUT FASTER. Bean High-Pressure Fog absorbs heat instantaneously. Out-absorbs water 10 to 1 per gallon.

PERMITS CLOSE-UP WORK. John Bean High-Pressure Fog can be used to gain entrance. Bean High-Pressure Fog clears the way through smoke and flames.

GETS IN ACTION FAST. No lost time laying hose. John Bean Fire Fighter goes into action immediately on arrival.

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CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

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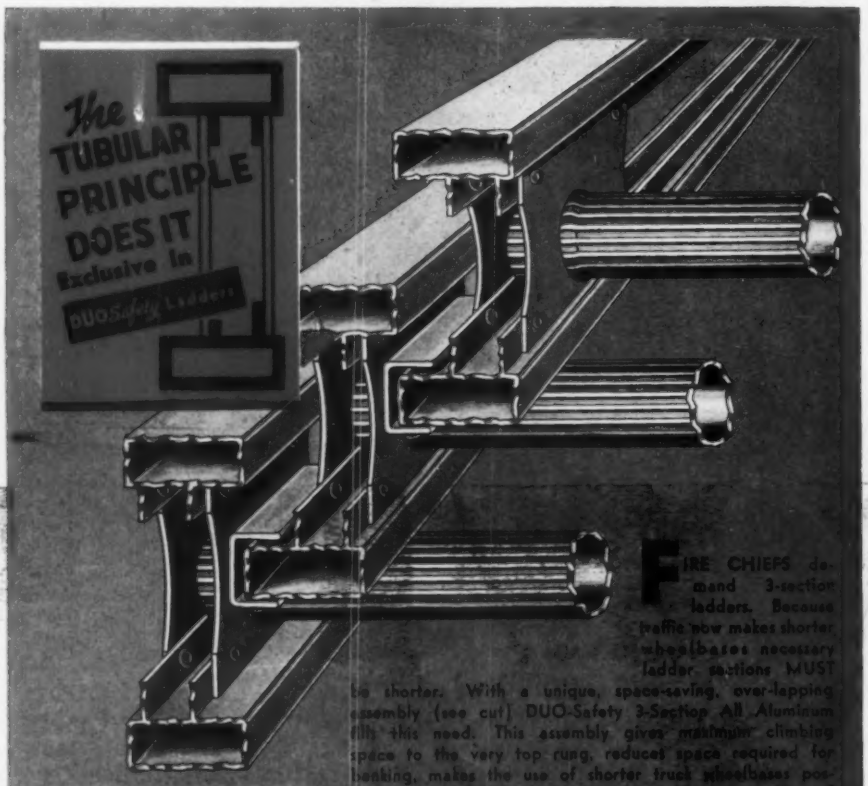
THREE-SECTION
SERIES 525A

NEW DUO-SAFETY *All Aluminum* HAS EVERYTHING THE FIRE CHIEF DEMANDS OF LADDER EQUIPMENT



FIRE CHIEFS demand 3-section ladders. Because traffic now makes shorter wheelbases necessary ladder sections MUST be shorter. With a unique, space-saving, over-lapping assembly (see cut) DUO-Safety 3-Section All Aluminum fills this need. This assembly gives maximum climbing space to the very top rung, reduces space required for beaking, makes the use of shorter truck wheelbases possible. And it does these things without the sacrifice of strength or light weight! DUO-Safety's exclusive Tubular Principle does it! This rectangular extruded Duralumin rail, together with other structural refinements, gives the fire chief everything he's looking for, and makes DUO-Safety All Aluminum the ladder hit of the year!

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A colorful file catalog illustrating Duo-Safety's complete line of fire ladders is available upon request.

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Also Makers of All-Wood Ladders and Combination Wood-Aluminum Ladders

NOTE:
Aluminum ladders Series 700A and 700A available now in limited sizes. Write for circular and details.

SERIES 700A CHANNEL CONSTRUCTION

This new Duo-Safety channel design is an outstanding development in light-weight pumper ladder equipment. All-aluminum (Duralumin) . . . all around husky construction gives you faultless quality and positive safety! Designed to replace the bulky old type solid side wood pumper ladders.

TWO SECTION Series 700 A

Fire hose economy begins at the end

B. F. Goodrich end protection stops blowouts, adds years of hose life

MOST ordinary fire hose tubes crack at the ends, near the couplings. B. F. Goodrich municipal fire hose has patented end protection (U. S. Patent 1,919,356) that entirely eliminates this cause of hose failure. Imbedded in the rubber 12″ from each end of the hose is a reinforcing network of hard twisted cords that actually make B. F. Goodrich hose strongest in the region where other hose is weak. Here's how it's done —

End-protected from expansion ring — B. F. Goodrich end protection provides an extra cushioning thickness of fabric to take the "bite" of the expansion ring when the coupling is applied. No danger of cutting or pinching the tube.

End-protected at hydrant — End protection helps B. F. Goodrich fire hose stand the extra strains of being coupled or uncoupled to a hydrant or fire engine discharge gate. Easily withstands distortion and twisting, vibration and flexing from water pulsation.

End-protected from coiling damage — B. F. Goodrich end-protected fire hose resists cracks due to kinking from being rolled up after use, using the coupling as a center for coiling. The tube in ordinary hose often cracks under this practice, but B. F. Goodrich hose can take it, armored by end protection.

Fire hose with end protection is an exclusive B. F. Goodrich feature — no other fire hose can give you this added hose protection. Available with all standard couplings. See this top fire hose at your local distributor. *The B. F. Goodrich Company, Industrial Products Division, Akron, Ohio.*

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Booster Pumps

for efficiency, dependability and economy

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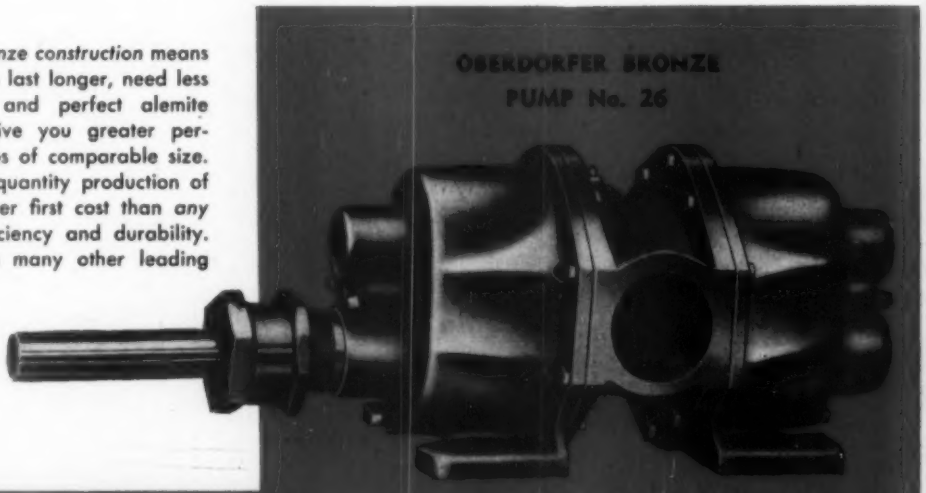


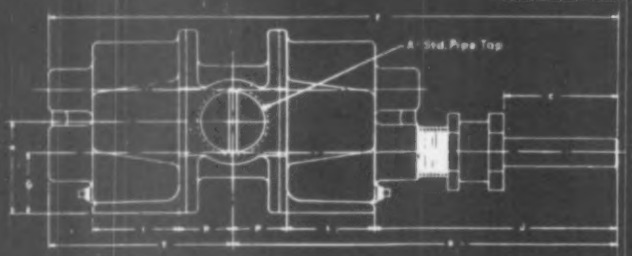
SPECIFICATIONS – Oberdorfer Bronze Fire Pump No. 26

DIMENSIONS

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
2	1	4	13¼	6¾	19⅜	2⅛	3¼	2⅞	8½	6	6½	⅜	2½	1⅝	1¾

PERFORMANCE DATA

Pump Shaft RPM	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
1600	120	500'—1½"	15'	150



LIST PRICE $172.50

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Fire Pump Division OBERDORFER FOUNDRIES, INC. Syracuse 1, N. Y.

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Approved by the U. S. Bureau of Mines

M-S-A Demand Mask

A cylinder-type breathing apparatus employing either oxygen or compressed air for ½-hour respiratory protection

This simple, easy to use Demand Mask supplies oxygen (or air) for the fireman in dangerous atmospheres according to his breathing demands, making him independent of outside air. Utilizing the M.S.A. Demand Regulator, the Mask's operation is automatic—a turn of a valve to start is all that is required. Non-fogging facepiece, comfortable light-metal carrying frame and padded leather harness are special, appreciated features. *Write for Bulletin B-16.*

M-S-A All-Service® Gas Mask

Protects against poisonous gases, vapors and smokes, wherever oxygen in air is sufficient for safety

The famous M.S.A. All-Service Gas Mask is known and used throughout America. Light, easy to put on and wear, this all-around Mask protects against every commonly-encountered breathing hazard (including carbon monoxide) except oxygen deficiency. The "All-Vision" Facepiece again made of flexible natural rubber affords wide-angle seeing with comfortable seal on the face—long-lasting canisters are quickly replaceable. *Send for Bulletin EA-8.*

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Time-proved in service on the job!

THE UNIQUE

M-S-A **Chemox®** SELF-GENERATING

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CHEMOX is the only breathing apparatus with a replaceable canister that generates oxygen as the wearer breathes. Just 13½ lbs. complete, CHEMOX delivers a plentiful supply of oxygen for a minimum of 45 minutes under hard firefighting exertion—affording dependable protection in unventilated areas where smoke, gases, and oxygen deficiency make air unbreathable. *Do you have our Chemox Bulletin B-14?*

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Fog-free lenses—no moving parts—no high pressure valves or fittings—easy to maintain—simple to use.

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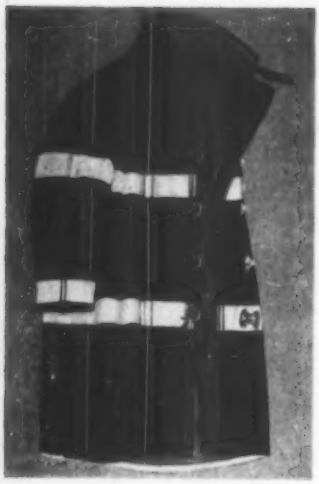
54 BRANCH OFFICES IN THE UNITED STATES AND CANADA

The Original MIDWESTERN Yellow Striped Safety Coat Is Again Available . . .

for Men of Action!



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Modern fire fighting calls for ***specialized*** protective clothing . . . clothing that safeguards the fireman's life on every run . . . clothing that enables him to use his equipment to the fullest advantage.

Every Midwestern product combines the thoughts and suggestions of practical Fire Chiefs and firemen from every section of the country . . . and every purchaser profits from years of Midwestern research and experience. That is why the famous Mackinaw Coat and other Midwestern clothing have embodied in their design every feature necessary for the protection and comfort of firemen.

In our vast selection of crude rubber materials you will find a type of fabric suitable for your climate and needs. The softness and flexibility in the high-grade materials used are your assurance of long time service and comfort. Many Fire Chiefs are now including Midwestern clothing in their regular yearly budget and, by placing your order early, you can be assured of this adequate protection when needed.

For complete information, have your Midwestern dealer show you our new garments now manufactured from crude rubber compounds. A letter to the factory will also bring you material samples for your inspection.

We now have available: White, Ivory and Brown crude rubber coats for Chiefs, Assistants and other officers; also all sizes short and ¾ length felt lined Firemen's boots for immediate shipment.

SOME O'THERS WITHOUT THIS TRADE MARK

MIDWESTERN MFG. CO., Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Coats**

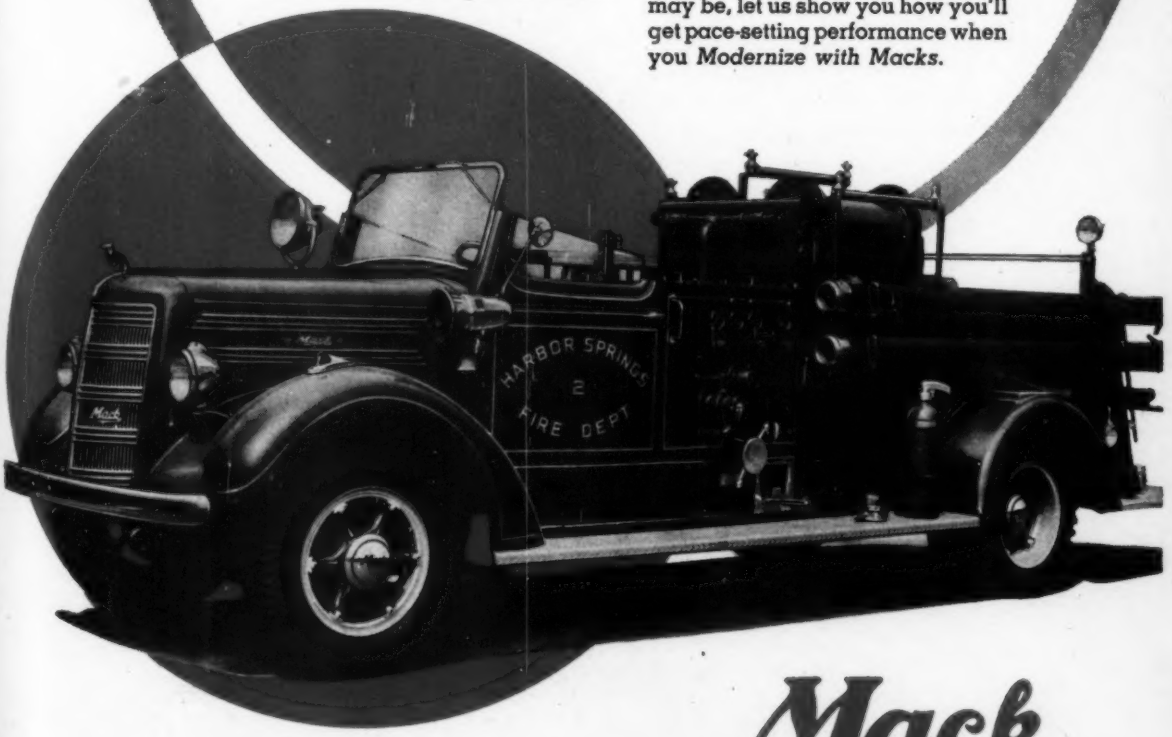
"More Than Satisfied . . . WITH OUR NEW Mack!"

. . . reports Chief L. E. Juilleret, City of Harbor Springs, Michigan, in describing the outstanding performance of this Mack Type 45, 500-gallon pumper recently put in service by his department.

● Chief Juilleret's response is typical of the enthusiasm displayed by fire and city officials in more than a thousand communities served by Mack fire apparatus. For experience shows that Macks deliver pace-setting performance — better at the start, better in the long run.

There are many reasons for Mack leadership in performance. *Advanced thinking and planning,* guided by constant alertness to changing firefighting problems. *Thorough experience,* represented by nearly forty years of uninterrupted motorized fire apparatus production. *Quality control,* through outright design and fabrication of major components by the greatest research, engineering and manufacturing facilities in the industry. And *country-wide service,* for quick and sure protection of your investment.

So wherever your department may be and whatever its needs may be, let us show you how you'll get pace-setting performance when you *Modernize with Macks.*



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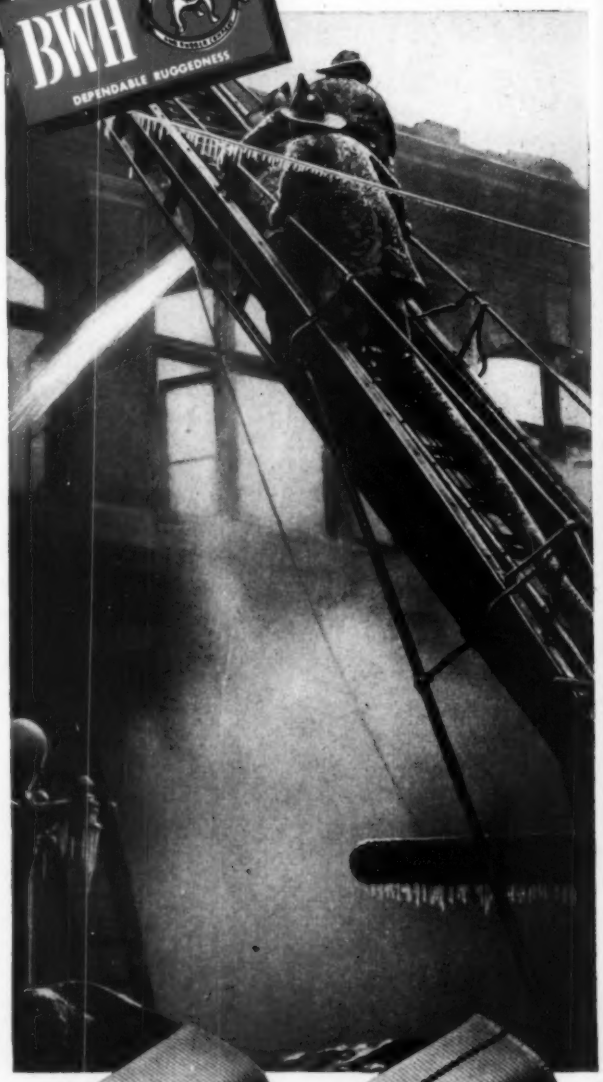
DEPENDABLE RUGGEDNESS

EASY-HANDLING
BWH FIRE HOSE
IS A TOUGH FIGHTER!

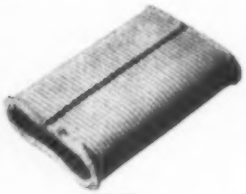


Light enough not to be a burden on ladders — strong enough to withstand pressure and rough going. That's dependable BWH Fire Hose, as fire officials of many cities testify.

BWH technologists originated the circular-woven canvas jacket that makes modern fire hose so much easier to handle. And BWH engineering genius constantly increases the stamina that is built into every inch of this famous hose.

The General Detroit Corporation is exclusive sales agent for BWH Fire Hose in most communities. Together with its subsidiary, the General Pacific Corporation, this organization has been an acknowledged expert on fire equipment for over 45 years.

There's a "General" representative near you. Call him next time your city needs dependably rugged fire hose!



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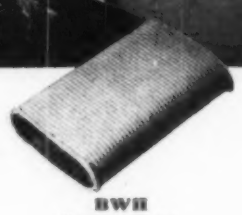
"BOSTON FIRE JACKET" HOSE
Double Jacket
Our very finest quality fire hose! Rugged, long-lasting, easy to pack, light to handle.

BWH
"PARAMOUNT" HOSE
Double Jacket
High quality hose, in demand where pressure-tested, durable, easy-handling hose is specified. Outstanding value!



BWH
"MILO" HOSE
Single Jacket
Excellent hose for communities where light service hose meets the needs. Tough, well made, highly efficient.

BWH
"UNDERWRITERS'" HOSE
Single or Double Jacket
Made in strict accordance with the National Board of Fire Underwriters' specifications. Labeled or unlabeled.

Distributors of famous
BOSTON WOVEN HOSE AND RUBBER CO.
Municipal Fire Hose

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NEW YORK • ATLANTA • CHICAGO • DALLAS
Subsidiary:
THE GENERAL PACIFIC CORP.
LOS ANGELES • SAN FRANCISCO • SEATTLE

Huge Passenger Plane Saved From Gasoline Spill Fire by New Rockwood FogFOAM Equipment

1. LaGuardia fire fighters in action after they had done a remarkable job of extinguishing huge gasoline fire, using special Rockwood FogFOAM outfit just installed on their crash truck a short time prior to fire.

Type FFF Rockwood FogFOAM Nozzle available for ordinary 1½", 2½" and 3½" hose lines

Over 1,000 gallons of gasoline flashed into a roaring fire on the ground underneath a huge DC-6 airlines passenger plane at the LaGuardia Airport recently. The airport fire fighting and crash crew quickly reached the scene and had the fire under control in a minute and a half. They put out the fire within six minutes.

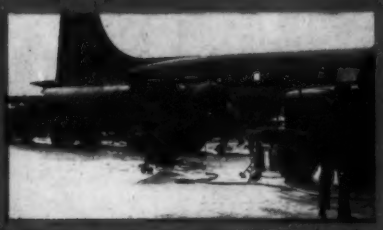
The plane, gasoline truck and personnel were saved. Good fire fighting plus Rockwood's new FogFOAM equipment made this possible.*

Today, this remarkable new FogFOAM equipment will enable you to extinguish large spill fires in gasoline with speed not possible with old style chemical or mechanical foam apparatus. It protects the firemen from intense heat and fumes. This new Rockwood FogFOAM equipment will also pay for itself in a few fires by the more efficient and economical use of foam.

We recommend this new equipment to every municipal fire department for handling the increasing hazard of large gasoline spill fires resulting from tank truck crashes in your city streets. It also offers you the solution to the airplane crash fire hazard.

* Write for detailed story of this airport gasoline fire and literature on the new Rockwood FogFOAM equipment.

2. Gasoline fire was quickly put out by this foam blanket applied by Rockwood's new FogFOAM equipment. Note how thoroughly foam blankets running gasoline and clings to trucks and other equipment.



3. Here you see location of gasoline truck and plane when hose line coupling broke spilling gasoline on ground underneath plane, gasoline truck and baggage trucks. Note front of airport crash fire fighting truck in right foreground.

ROCKWOOD

ROCKWOOD SPRINKLER COMPANY

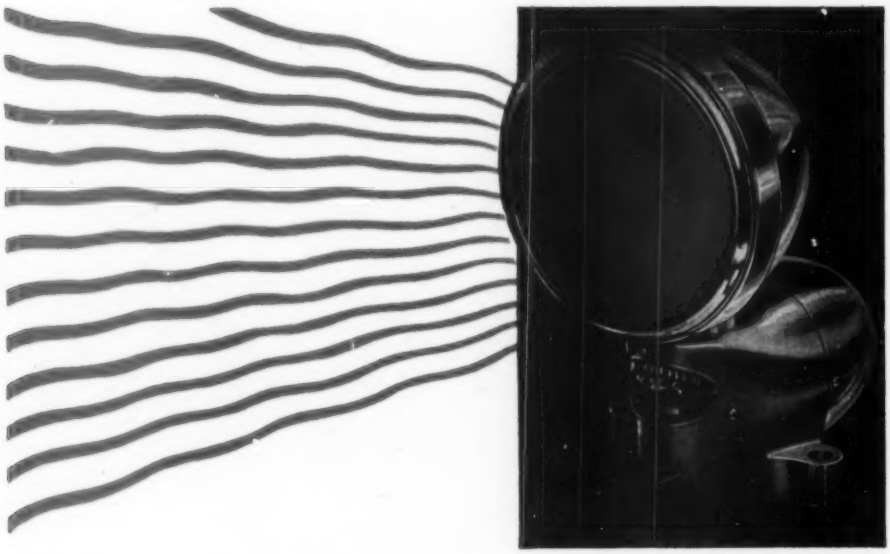
54 HARLOW STREET WORCESTER 5, MASSACHUSETTS

Specialists in Fire Protection Engineering, Equipment and Installation since 1907

GUARDING THE LIVES OF MILLIONS FROM COAST TO COAST

FIRE DEPARTMENTS IN AMERICA'S LARGEST CITIES AND SMALLEST TOWNS

HAVE FOUND THERE IS NO EQUAL TO MARS SIGNAL LIGHT



AMERICA'S LARGEST SELLING WARNING SIGNAL LIGHT

More than 11,000 MARS SIGNAL LIGHTS have been installed on the Fire Apparatus and Officer's Cars of over 300 cities and towns from Coast to Coast.

Mars Light Is Fully Guaranteed for Five Years

Mars Has Never Failed to Back Up This Guarantee and Never Will

INVEST IN A LIGHT THAT WILL LAST AS LONG AS YOUR APPARATUS

ASK US ABOUT

THE NEW MARS TYPE "G" SIREN

IMMEDIATE DELIVERY

MARS SIGNAL LIGHT CO. 5737 W. DIVISION ST. CHICAGO, ILL.

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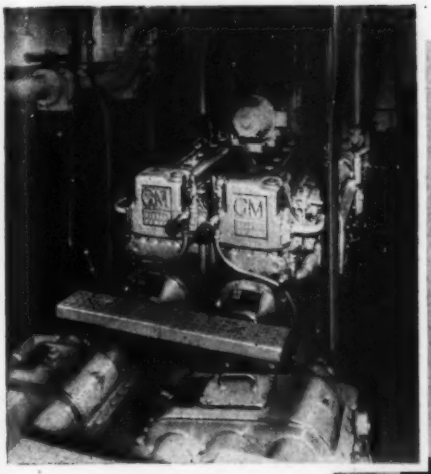
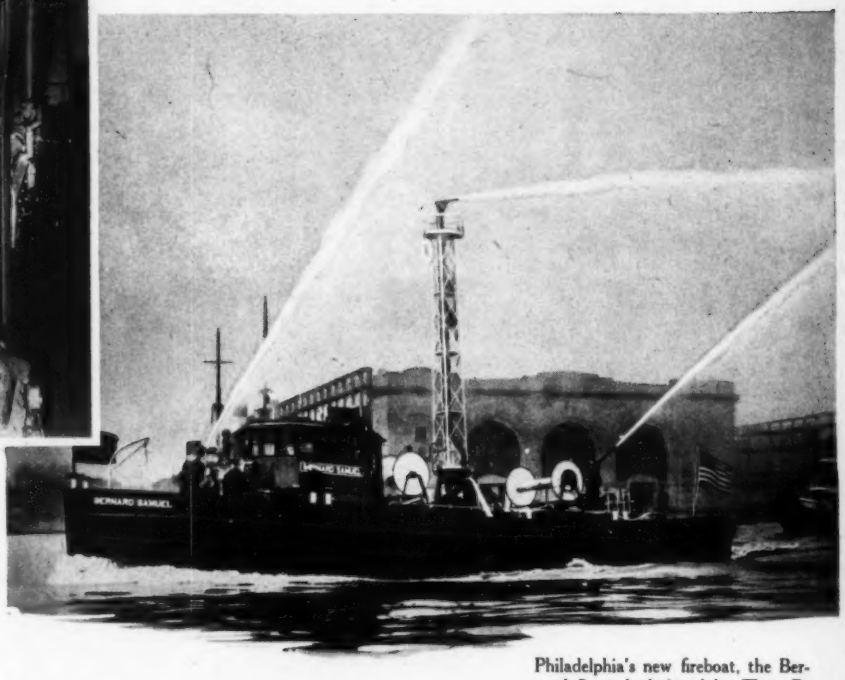


Heart of the Bernard Samuel is this GM Series 71 Quad. Each engine can be individually declutched and turned to pumping duty as the need demands. With a speed of 17 m.p.h., she can shift from full speed ahead to full speed astern in seven seconds.



Philadelphia's new fireboat, the Bernard Samuel, designed by Thos. D. Bowes, M. E., prominent Naval Architect, measures only 75 ft., yet packs all the punch of her larger predecessors and, at the same time, far surpasses them in economy and flexibility. She pumps better than 5,500 gallons per minute at 150 pounds nozzle pressure.

Brand-New Idea

in fireboat design

THE Bernard Samuel's small size and great versatility can, in large measure, be attributed to her power plant—an 800 H. P. General Motors Series 71 Diesel Quad-6. Because of its compactness and greater power-per-pound 2-cycle design, this engine takes up less space—leaves more room for equipment. GM Diesel's instant, push-button starting enables the boat to get underway in a hurry when the alarm sounds.

The same characteristics that made GM Diesels the choice of the Bernard Samuel's designer make these engines ideal for both pleasure and work boat power.

Write Detroit Diesel Advertising Department for free booklet "The New Idea in Fireboats" which gives the full story of the Bernard Samuel.

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SINGLE ENGINES . . Up to 200 H.P. DETROIT 28, MICHIGAN MULTIPLE UNITS . . Up to 800 H.P.

GENERAL MOTORS

DIESEL BRAWN WITHOUT THE BULK

GM GENERAL MOTORS DIESEL POWER

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across the nation for almost 3 years

HERE'S MORE POWER TO YOU!

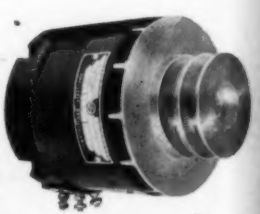
There are no other time-tested A-C Systems that will give you performance like this!

- Alternator systems can provide 50 amperes (or more) with engine idling and full output at all driving speeds to keep batteries fully charged while supporting the unlimited use of accessories.
- Weigh 60% less than D-C equipment of comparable rating.
- Require less space and less support.
- Require less maintenance and operate with less danger of burnout because Alternator has no commutator with commutating brushes or no rotating armature windings to cause sparking.
- Eliminate radio "fade out" and range reduction caused by weak batteries—hold radio noise level to an absolute minimum and prolong life of radio equipment.

THE ORIGINAL HIGHER-OUTPUT A-C GENERATING SYSTEMS KEEP BATTERIES UP —COSTS DOWN . . . SUPPORT MORE ACCESSORIES!

Way back in March, 1946, Leece-Neville introduced its now-famous, HIGHER-output A-C Generating Systems without fanfare. Today, almost three years later, installations on fire department and other vehicles operating under all types of conditions in all parts of the country have conclusively proved three things: 1. These systems keep batteries up; 2. These systems keep costs down; 3. These systems support the use of more accessories. If such *proved* advantages interest you . . . see your nearest Leece-Neville Service Station or write *The Leece-Neville Company, Cleveland 14, Ohio.*

THIS ALTERNATOR is the heart of the popular Leece-Neville A-C Generating System rated at 14 volts—100 amperes. Other 14-volt systems rated at 60, 80 and 150 amperes. For 6-volt circuits, there is a 45-ampere system (convertible to 60) and an 80-ampere system.



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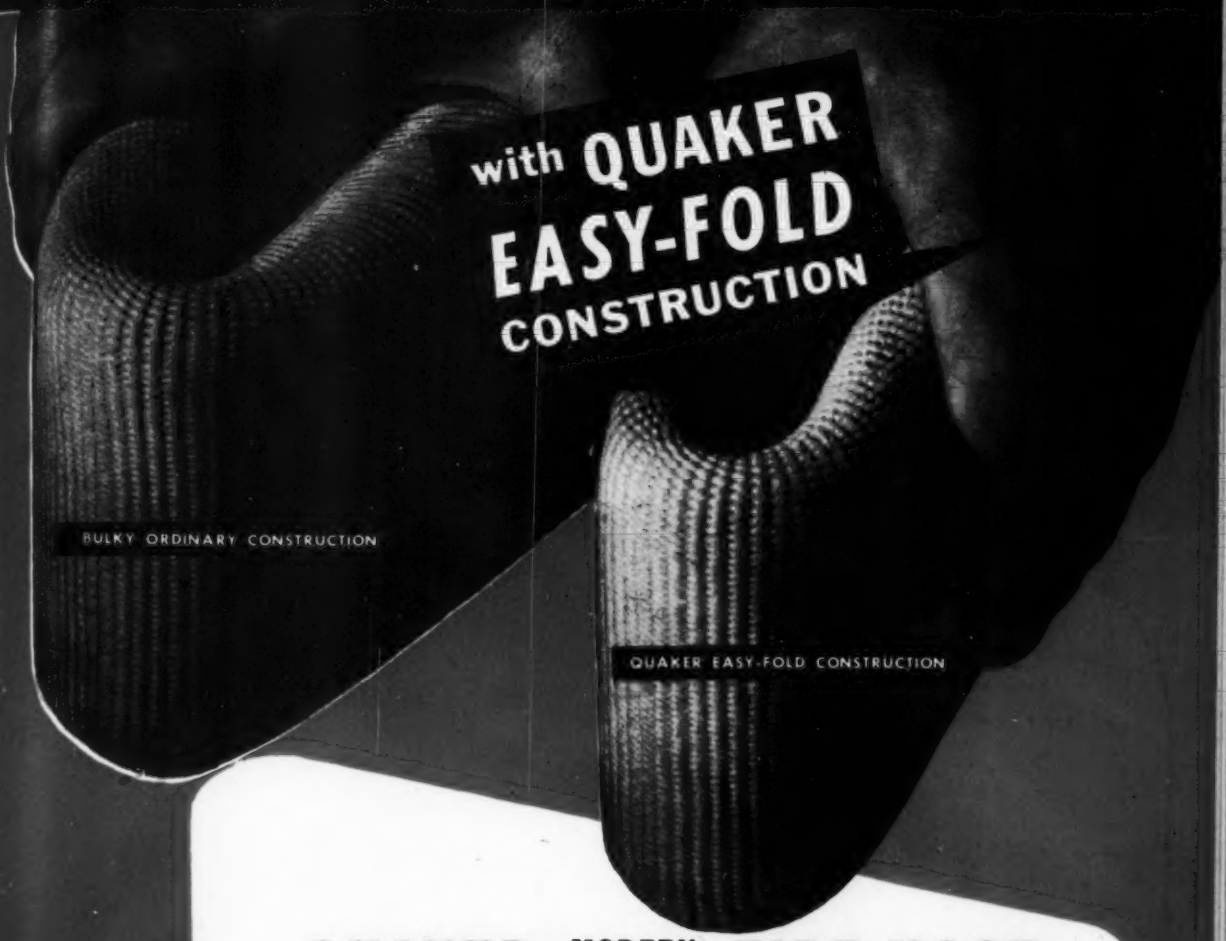

QUAKER MODERN MUNICIPAL FIRE HOSE

folds flatly . . . allows 33% more footage in trucks

Yes—with Quaker easy-fold construction you get greater flexibility, flatter folding, more compact storage without sacrificing ruggedness or long service. That's because it is designed and made by Quaker specialists to fold flatly, easily, quickly.

When minutes mean lives, fire fighters have extra fighting power with ⅓ additional footage to reach the high, out-of-the-way spots. You'll get longer-lasting security too, because Quaker Hose is made to resist constant abrasion, high pressure, hard usage.

Cities, communities, industrial plants will find top dependability, greater economy with Quaker Modern Municipal Fire Hose. Order a supply soon for safety's sake.

"IF THERE IS A WAY TO GET IT DONE . . . QUAKER WILL DO IT"

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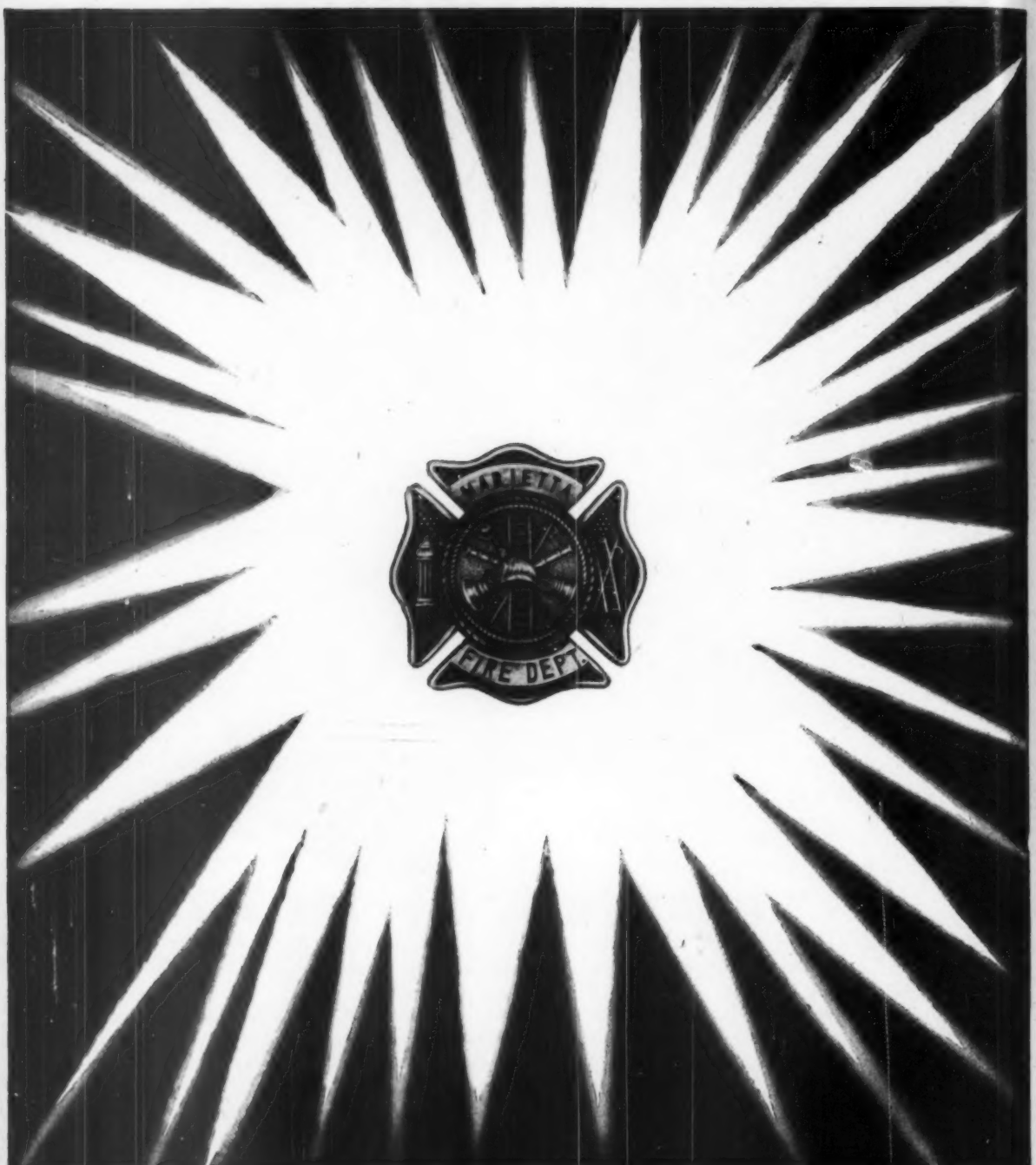

To bring a fire department up to the level of smartness you desire, turn first to Blackinton uniform insignia with the new Super-Gloss finish. In fire department service, metal insignia takes a beating that only a top quality finish can stand. The new Blackinton finish has proved far superior by scientific exposure and abrasion tests. It's always best to specify BLACKINTON when ordering badges. For 96 years this firm has pioneered in the development of diestruck insignia. And this 96-year record is a mighty good guarantee of a satisfactory product.

Dealers, uniform houses, and fire and police supply distributors handle Blackinton badges. If your dealer cannot supply you, write for our new catalog.

BLACKINTON

V. H. BLACKINTON & CO., INC., ATTLEBORO FALLS, MASS.

a NEW and SENSATIONAL *Motorola* "FIRST" that makes 2-WAY RADIO more valuable than ever before!

NOW...Your cars hear only your calls!

Motorola "QUIK-CALL" SELECTIVE SIGNALING EQUIPMENT

Just press a button to call your cars—individually, or by groups

Now you can control and direct calls to your fleet, or to any one car in your fleet with the new Motorola "QUIK-CALL" selective signaling equipment! Your cars can be called only by *your* base station. Another "FIRST"—Motorola "Quik-Call" prevents your cars from receiving calls sent by other transmitters on the same or adjacent channels...they need not hear any calls except those coded from your station alone. Interference from diathermy is completely locked out during standby and, most important, skip interference false calling and squelch opening is eliminated.

Motorola "QUIK-CALL" prevents nuisance interference from stations in nearby communities, reducing driver fatigue and increasing the utility of any radio system.

Developed after two and one half years of exacting research, Motorola "QUIK-CALL" is based upon the use of a pure tone generator of instrument precision, called the Vibrasender, and a responding resonant responder—called the Vibrasponder. These "electro-mechanisms" in various combinations, are capable of calling your fleet (with the single-key system) or of selectivity calling up to 1,350 individual units (with the 24-key system) with the precision and speed of adding machine operation.

A product of Motorola Research Laboratories

Motorola "QUIK-CALL" can be added to your present *Motorola* equipment

It doesn't matter whether you're installing a whole new communications system, or if you already have 2-way radio...the Motorola "QUIK-CALL" can be adapted to your system in bringing it up to date. Enjoy the advantages of this new kind of 2-way radio.

FREE!

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Please mail me a FREE copy of the descriptive booklet on Motorola "QUIK-CALL" selective signaling equipment.

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Prompt Alarm Saves Hotel and Lives!

NIGHT FIRE IN OLD FRAME HOTEL PROVES VALUE OF "ON WATCH" AUTOMATIC FIRE ALARM SYSTEM

Greenwood Lake Fire Chief Fred Christian and Ex-Chief O'Leary examining thermostat that activated alarm.

GREENWOOD LAKE, N. Y., JAN. 19. —What might have been a serious fire in both loss of life and property damage, was limited to a small $350 property loss by quick action of the two Greenwood Lake fire companies as a result of their being alerted by the latest, modern, visible and audible, automatic fire alarm.

The Greenwood House, a fifty-year-old 20-room, frame building, suffered this small loss when a fire caused by the overheating of a stove broke out in the kitchen. The fire immediately activated the "ON WATCH" alarm which sounded off lustily, bringing out both fire companies. Inhabitants of the building were warned in ample time to leave should the fire have reached serious proportions.

But for the alarm—the building might have been a complete loss!

A LIFE SAVING DEVICE FOR INDUSTRIAL, INSTITUTIONAL OR RESIDENTIAL BUILDINGS

Chief Joseph J. O'Leary, inventor of the "ON WATCH" alarm, says: "In your Fire Prevention Work advocate automatic fire alarms. They will give the fire department a real chance to control fires by extinguishing them in their early stages — thereby saving life and property. Further — the Underwriters Rating Board of Albany, N. Y., allows a 10% credit on Fire Insurance where the "ON WATCH" alarm is installed."

THE ON WATCH FIRE ALARM

APPROVED BY CITY OF NEW YORK BOARD OF STANDARDS AND APPEALS.

KILL DELAYED ALARMS WITH THE "ON WATCH"

Complete information on request.

O'LEARY'S FIRE PREVENTION CO., INC.

126 EAST 44th STREET, NEW YORK 17, N. Y.

Available to Dealers recommended by the fire service.

Again, the Life Net proves invaluable!

Chief GARVIN
Yonkers, N .Y.

Thanks to Chief Garvin, who had only three firemen and five civilians to support the net; yet he had a successful rescue. Chief Garvin and his men are well versed in life net operations and can quickly direct civilians when an emergency such as this arises. This proves that a life net can be properly manned and effectively used, even with only a few trained firemen available. Furthermore, the life nets in the Yonkers Fire Department are inspected regularly, which insures their being in first class operating condition. There must never be any guesswork! It is well for every fire chief and fireman to know that their equipment is in first class condition, and that they have the knowledge to use or impart to others under any emergency.

The dependable modern ATLAS LIFE NET, with its exclusive safety features, gives complete assurance that the equipment will do its part.

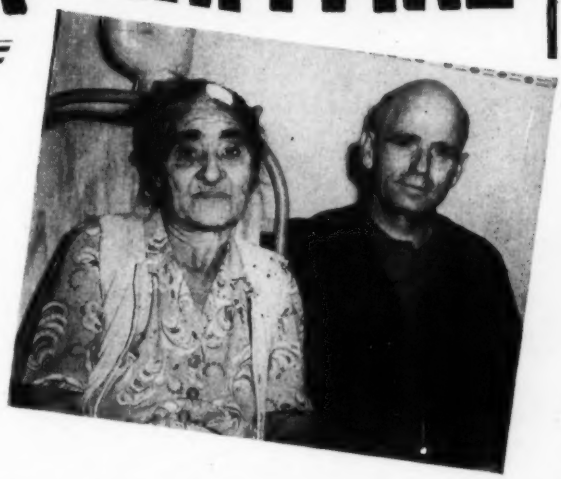
Always Specify

YONKERS DAILY TIMES

THE WEATHER: Cloudy followed by rain. Highest temperature in low forties. Fresh southerly wind.

VOL. XV—No. 118 YONKERS, N. Y., WEDNESDAY MORNING, DEC. 29, 1948 Price Three Cents

NETS SAVE TWO AT 3-ALARM FIRE



SAVED BY NET !

Mrs. Catherine Pluchos was pushed by her husband George from a window of their fourth floor apartment and he followed her into a net held by firemen as fire raged yesterday at 1 Park Avenue. Daily Times.

We use this successful life saving operation as an example, to instill confidence in firemen and the general public, that a life net, properly manned, is a valuable means of saving lives. It is a fast and easy means of rescue. It can be used in narrow spaces when necessary, where it is often difficult, if at all possible, to raise ladders.

At this fire, the following conditions prevailed: The building faced on a steep graded street. It was a cold Winter day, with about 8 inches of snow on the ground, the pavement very slippery. There was dense black smoke from the ground floor up, making the rescue operation extremely difficult. There was also a time element to contend with. All means of escape were completely cut off by fast spreading flames, involving front stair well and access to the fire escape. Mr. and Mrs. Pluchos had reached the point where they were going to jump to what would likely be their death. Only the fast action of Chief Garvin, three firemen and five civilians saved these two lives.

MORAL: Have your nets inspected by experts from ATLAS and have your men become familiar with ATLAS rescue technique.

ATLAS *The World's best life net*
27 Warren Street, New York 7, N. Y.
SAFETY EQUIPMENT CO., Inc.

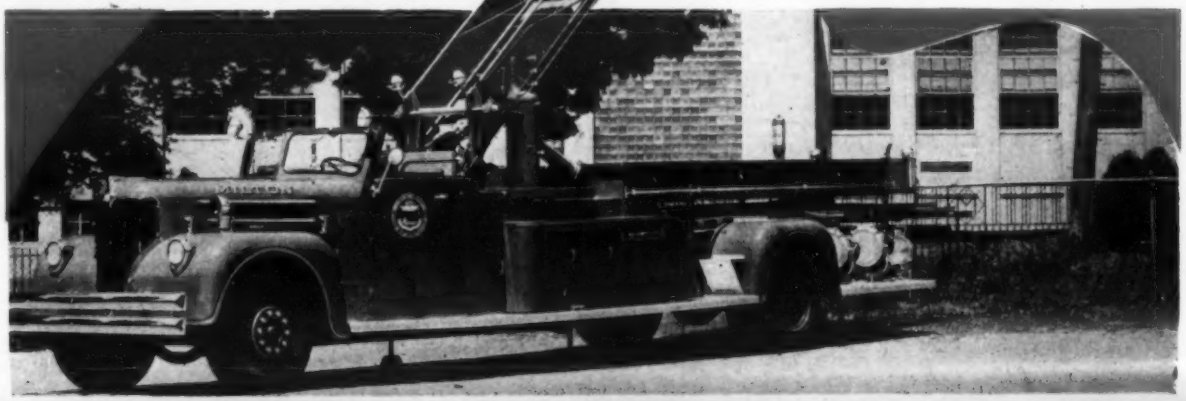
MAXIM

Apparatus you can depend on!

The MAXIM apparatus we build today is an even finer job than the thousands of MAXIM jobs that have been rolling up outstanding records of dependability in the past. Now, MAXIM apparatus is available to you wherever you are. You can select from a complete line —1,250, 1,000, 750, 500 gallon Pumpers; City Service Ladder Trucks, Quadruple Trucks. Hose Wagons, Rescue and Squad Cars — and the world's finest all-steel aerial with complete Hydraulic control. Specify MAXIM!

MAXIM MOTOR COMPANY — **MIDDLEBORO, MASS.**

The World's Finest Aerial



It will help if you will mention FIRE ENGINEERING *when writing advertisers*

SAVE MORE LIVES

Answer emergency calls with a modern, versatile, life-saving E & J Resuscitator

EFFECTIVE IN REVIVING ASPHYXIA VICTIMS IN MANY EMERGENCIES

E & J Resuscitators have saved many thousands of lives in cases of smoke suffocation, carbon monoxide poisoning, drowning, electric shock, heart attack and other asphyxiation emergencies. The simplicity of operating these dependable life-saving machines has made it possible for Fire Departments to give community life-saving service unparalleled in history.

The safe, automatic breathing action of the E & J Resuscitator eliminates any possible chance of confusion in operation regardless of how tense the circumstance. The Portable Model, designed for your use, will withstand a long life of constant hard service. There are no soldered joints or rubber connectors in the mechanism to break down with wear. The unit can be operated flat down, upright, on either side or upside down, should the occasion demand. It can also be operated with the case closed and carried alongside a moving stretcher.

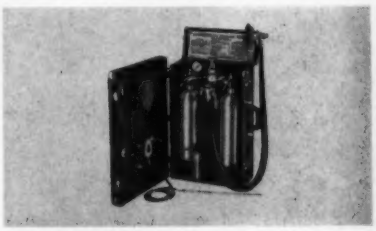
The E & J Resuscitator *automatically* adjusts itself to the volume of any size lung. It is equally safe and effective for adults and for tiny premature babies. And medical research has proved conclusively that the positive and negative pressure principle, which makes the E & J machine inhale *and exhale* for asphyxia victims, is the most effective method of artificial respiration available.

By merely flipping a switch the E & J Resuscitator can be transformed into an equally effective inhalator or aspirator.

MARK OF PROGRESS IN YOUR DEPARTMENT

The emergency conditions under which you are called upon to revive asphyxia victims set an increasing challenge each year. Providing E & J Resuscitator protection for your community is a mark of progress that means more lives can be saved.

Your versatile E & J equipment is three machines in one—Resuscitator, Inhalator and Aspirator. It breathes for those who cannot breathe for themselves, it automatically warns of breathing passage obstructions and provides for their removal, and it serves as an oxygen inhalator when only that function is required.



MAIL COUPON TODAY

There is no obligation on your part. You will want this machine for your department, so act now. E & J has a plan to help raise the money for you if your budget is limited.

TO: E & J MANUFACTURING CO.
DEPT. K-2, GLENDALE 1, CALIFORNIA

☐ Send me full information ☐ Arrange a demonstration ☐ Explain fund raising plan

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OUTSIDE

INSIDE

Over and above such basic advantages as soft flexibility, a quick dry, natural flatness with easy edge folds, TWILL WEAVE has two great and practical points of superiority. One, as can be seen in the magnified view, is the overlapping of any two adjacent stitches which pass the load, friction and wear along the same way as runners on a sled. The other is that on the outer surface a stitch is twice as long as on the inside, so that for the same weight and strength of hose twice the cotton or yarn is outside to meet wear and tear.

While the outside of TWILL WEAVE builds in mechanical advantages, so also does the inside nature of the fabric make for a better hose. Comparing the two magnified views brings out most clearly a couple of the most practical features. Notice how the yarn in the single inside stitch is untwisted and the same cabled cord twisted tighter in the long outside stitch. This gives a hose with a hard yarn outside to resist wear, keeping a soft yarn inside for smooth waterway and ability to vulcanize the tube to BOTH warp and filler.

•KEYSTONE•

FULL CABLED FULL TWILL WOVEN GENUINE WAX AND PARA GUM TREATED HEAVY DUTY FIRE HOSE

FABRIC FIRE HOSE CO.

1869 SANDY HOOK, CONN. 1949

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

AER-O-FOAM "MINUTE MAN" PROTECTION SNUFFS OUT FIRE IN 60 SECONDS

Gasoline blazing away . . . AER-O-FOAM applied . . . 14 seconds later, fire under control . . . and in 60 seconds it's *out to stay out!*

That's the kind of speedy fire protection National AER-O-FOAM provides. AER-O-FOAM forms a quick, thick, tough, airtight blanket of foam that snuffs out flames . . . protects production facilities, refineries and bulk plants. Non-corrosive, it can be washed or brushed off machinery, walls and floors when dry.

For positive fire protection, use FIRE-TESTED National AER-O-FOAM. For complete fire-fighting equipment and engineering assistance, call on National Foam Fire System Engineers.

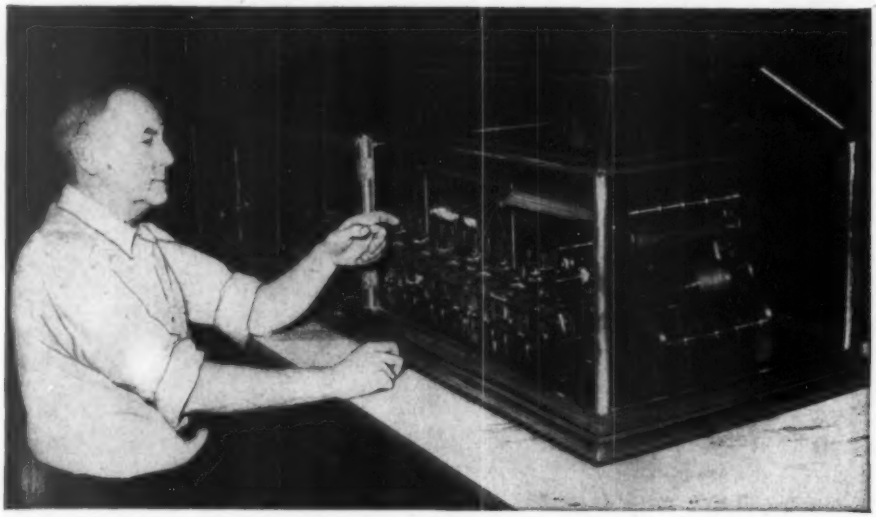
NATIONAL FOAM SYSTEM, INC.

Headquarters for Foam Fire Protection

Packard Building, Philadelphia 2, Pa.

WHY CITIES PREFER GAMEWELL

YEARS OF TROUBLE-FREE PERFORMANCE



Fireman John Hurley, on duty at the central fire station, Lowell, Massachusetts, inspects the 77 year old automatic fire alarm repeater. The repeater relays alarms from the city's 188 fire alarm boxes to all fire stations. This is but one instance of many, typifying the high quality of GAMEWELL equipment.

Lowell Fire Department Still Uses 77-Year-Old Repeater

Relays Alarms to 11 Firehouses in City Registered on 10 Circuits

LOWELL—Almost faster than the eye can see, the glass-encased apparatus leaps into action, a whirring of blades, shifting of weights and adjusting of contacts, accompanying the opening and closing of circuits and the city's fire alarm system swings into operation.

The action, perfectly synchronized, takes place in the fire department's 77-year-old repeater, on the top floor of the Central fire station on Palmer street. The scene takes place every time an alarm is sounded from any one of the 188 boxes throughout the 14 square miles of the city.

It is through this repeater system that an alarm, sounded on any one box, is relayed over the 10 fire department circuits into the 11 firehouses in which the city's 16 fire companies are stationed.

Even watching the repeater or the tapes representing the 10 circuits and on which the strokes of the bell are punched, it is impossible to discern any slowing down of the process.

FROM THE LOWELL SUN — NOV. 18, 1948

For nearly a century GAMEWELL Fire Alarm Boxes have been the recognized standard of excellence for fire signaling.

We invite your inquiry.

THE GAMEWELL COMPANY
NEWTON UPPER FALLS 64 MASSACHUSETTS
IN CANADA NORTHERN ELECTRIC COMPANY LTD MONTREAL

FIRE ENGINEERING

FEBRUARY, 1949 VOL. 102. NO. 2

With the Editor

Correct This Misnomer The inconsistencies of the English language have long been a source of irritation to students of the subject. For many years, the fire service has found one of these inconsistencies not only an annoyance, but an indirect contributor to the cause of fire hazards.

The inconsistency in question has to do with the confusion that exists over the meaning of the words *inflammable* and *flammable*.

Students of fire control, safety engineers and others concerned with safeguarding the nation from fire, have had occasion to verify this confusion. In New York, for example, the Greater New York Safety Council reports that many housewives have been under the impression that the word *inflammable* means *nonflammable* and, thus, have been none too careful in handling certain canned or bottled fluids which are easily ignited. The fire and accident records contain mute evidence of householders' misunderstanding of this nomenclature. The subject has been aired at various times in the fire service, but no concerted movement has ever been taken to clarify the problem.

The crux of the problem rests in the general belief that the prefix "in-" always means not, for doesn't "incombustible" mean "not combustible."

FIRE ENGINEERING joins with other groups in urging the use of the words *flammable* and *nonflammable* and elimination of the misnomer *inflammable* to avoid further misunderstanding.

An Epoch or Something On January 6, 1949, the Philadelphia Fire Department fought a three-alarm fire in the First Baptist Church of that city.

Although many of the fire fighters were not aware of the fact, their struggle to control and extinguish that fire made history. It was, we believe, the first time a multiple alarm fire was ever televised over an appreciable distance. Thus, for the first time, firemen, and others far removed from the scene, were able to witness fire fighting operations being carried on at a working fire. For the first time in history, they had a ringside seat at as thrilling an action as only a battle with a large fire can produce.

Reviewing this historical event, which incidentally bears out the prophecies made by this publication when television was only a blueprint, it seems to us that it foretells developments of great importance to the fire service, and to the public that needs it.

Fred Shepperd

Fire Fighting In Japan

Flammable Construction, Deficient Water Supply and Obsolete Fire Apparatus Make Fire Fighting a Difficult Task

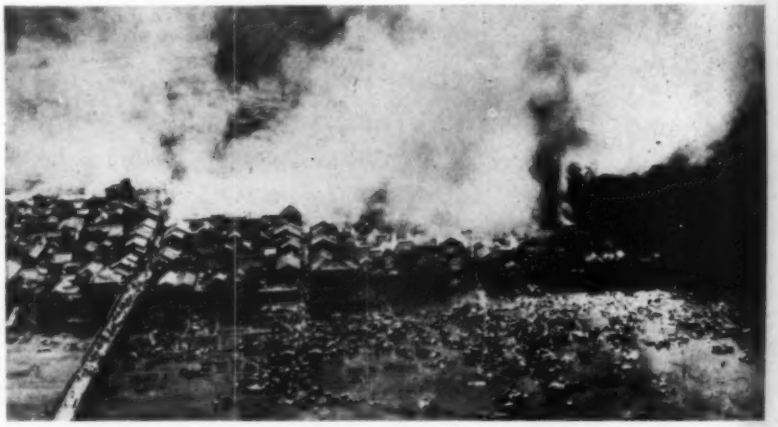
By L. A. WOOLDRIDGE, JR.

MANY times I have thought about the firemen in the United States sitting and waiting in the fire stations for a fire. And many times I have wished that some of the well-trained crews were in Japan to help us, especially on the day that one of my stations answered eight fire alarms. Yes, fires in Japan are plentiful, so plentiful that often a fireman forgets the seriousness of the situation, and it merely becomes an enjoyable game.

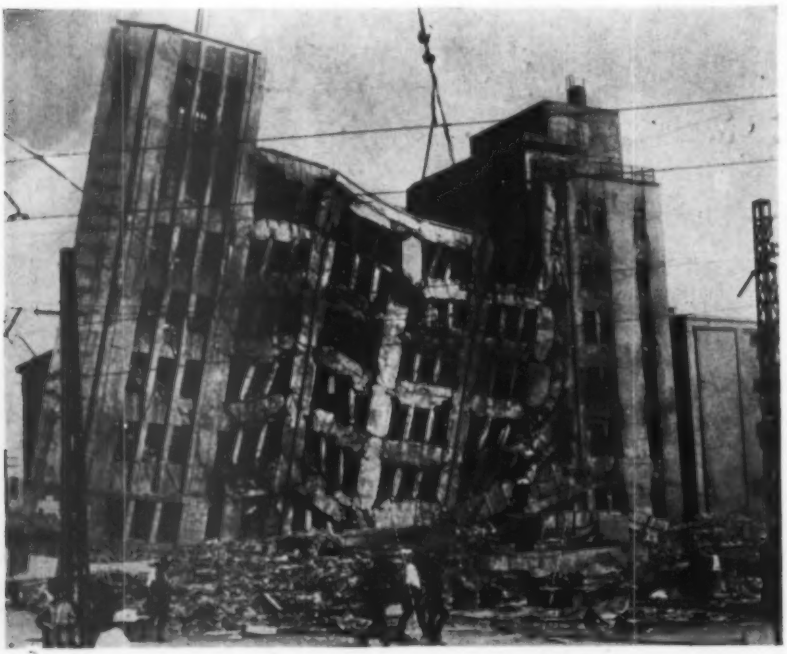
The Japanese fire organizations have been under the National Government Police control almost since the beginning of a national government in Japan. Most of the equipment was purchased by the National Government and allotted to the various localities. Japanese politics played a large role in the distribution of this equipment, funds, firemen's benefits, etc.; and since the police chief was the superior to the fire chief, the police system took the best men and the most money. This brought about an old belief that "thievery can be prevented, but fire is a fate." Little is known today about the proper methods of fire prevention, codes and standards, improved techniques, characteristics of inflammable liquids, and the like; but, through the work of the Supreme Command Allied Powers, the roots of a higher standard of fire discipline are growing. The first National Fire Prevention Week in 1947 was a great success, and the Japanese fire organizations went all out by giving demonstrations of fire equipment, distributing propaganda, visiting houses, broadcasting on the radio, meeting with certain influential citizens to discuss fire hazards in the community, and promoting poster contests in the public schools.

Upon arrival in Japan of the 3161st Engineer Fire Fighting Platoon, we found many things very humorous in the fire brigades. It was a cold day in December of 1945 when one of my fire stations in Nagoya received an alarm to a Japanese residence. Our response was very prompt; and even though the Japanese fire station was much closer to the objective, we passed the Japanese Nisson fire truck coming out of a side road. The small truck must have been manned by at least 10 firemen. One man was standing on the running board with the fire brigade flag in one hand, and holding to the windshield of the truck with the other. As the truck went around the corner, the fireman accidentally dropped his brigade flag and the truck rolled another block down the street before it could be stopped. The driver backed the fire truck to the fallen flag, it was picked up and the procession proceeded to the fire, after several minutes delay. That instance exhibited the deluxe esprit de corps of the Japanese fire brigades.

It was quite surprising to find that it is customary to reward the firemen for their efforts in extinguishing a fire in your house. In February of 1947 we were fighting a fire which enveloped eleven houses and was threatening several others. An elderly Japanese gentleman whose house was threatened, offered the American fire fighters a case of beer to protect his house. His wife did not appear to have consented with his making the presentation, and tried unsuccessfully to retrieve the valuable beer from the Americans. Immediately she reported the incident to the American Military Police who thought the fire fighters had stolen the beer. All



The Populace of Shingu City in Southern Japan Crowds the Beach as Fire Involves Their Homes After the Disastrous Earthquake and Tidal Wave of a Year Ago

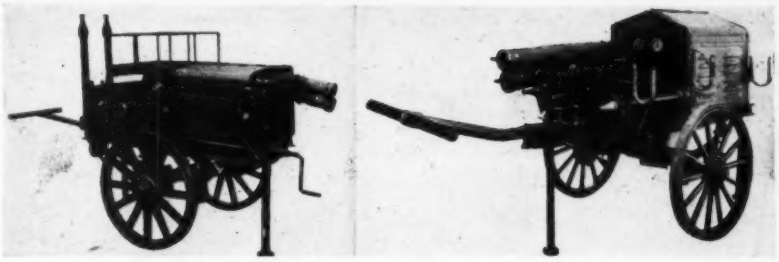


What a Japanese Earthquake Does to a Concrete Building

The above shows a seven-story department store at Fukui, Japan, after the earthquake of June 28, 1948. Ensuing fire added to the damage.

H--- broke loose, and the Military Police started chasing the firemen in and out of the burning houses. The beer was quickly consumed by the firemen and the Military Police felt slighted when they found only the empty beer carton in the ashes of the fire. Three more houses burned, all for a case of beer.

Laying all jokes aside, the operations at fires in Japan were very difficult. The sources of water supply were most irregular. Sometimes we procured water from underground telephone cable tunnels, other times from ground level sumps, sewage systems, small streams, and fire hydrants with four-inch main lines. Rarely did the water supply from a hydrant permit the use of a 2½-inch hose, so we carried as much water as possible. Every day a prayer was made requesting the Good Lord to place the next fire in a position where the ocean



Types of Japanese Portable Pumps Used in Rural Communities

operate, and the repairs needed to rehabilitate the telephone cables. Still there is no adequate fire alarm system in most cities in Japan. An interpreter is a necessity in any fire station serving

Japanese Fire Fighters in the Larger Cities Go in for Calisthenics in a Big Way. Here a Selected Group Give a Demonstration at the Annual Department Review in Tokyo Early This Year

water could be utilized. To remedy the situation an agreement was made with the Japanese fire departments to relay water from their hydrants to our booster tanks so that we could at least use our booster lines. By this method, enough water could be pooled from three hydrants into one booster tank to make a small showing.

The fire alarm systems in the major cities of Japan were burned out during the war, and the telephone systems were also badly damaged. Observation towers were used to a great extent for fire detection; but with this method, it was difficult to identify a fire until it burned through the top of a building. The automobiles which burn charcoal are the cause of great confusion, in that each time a charcoal burner is fired, a white smoke screen ensues which would make the Army Chemical Warfare Service proud. The Tokyo Fire Alarm Company is overcrowded with orders for the installing of fire alarm systems in the American Dependent Housing Areas, but it will be several years, unless free trade and commerce is restored to Japan, before any appreciable quantity of fire alarm systems can be installed. It was contemplated that small systems could be made cheaply by using annunciator boxes from elevators and the unused underground telephone cables. The larger factors prohibiting the use of the telephone cables were the short distances over which the system could both Japanese and American districts. Sometimes I thought about using the old Indian smoke signals for communications between the fire stations.

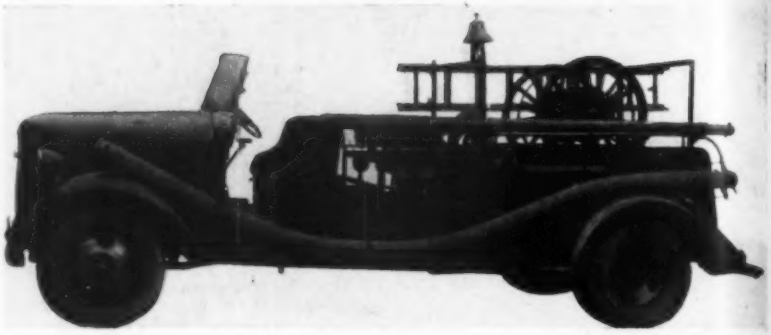
All types of equipment in Japan are priceless, in that replacement parts are not readily available, and brass is allocated to the manufacturers in small quantities. The standard Japanese fire hose is a 2½-inch, single jacket, linen hose with a Machino coupling. It is a very quick connecting coupling and has a lot of good points. The pumps used are also of a more or less standard type. Originally the design was German, and a double impeller, parallel, rated at 300 GPM, is used. It is mounted midship on any one of a number of different makes and models of chassis, both American and Japanese. Nearly all of the trucks are prewar models; however, a rehabilitation program is placing much of the equipment in serviceable condition once again.

It is expected that at least one out of every three engines responding to an alarm will break down before the fire can be extinguished. When an alarm is received, a truck is hand cranked, while the remainder of the firemen stand by on the truck. Once it is started, the engines race at the high speed of 20 miles per hour to the fire. One man hand-cranks the siren on the side of the truck, while the dark capes of the firemen wave in the breeze. There is no law giving the right of way to emergency vehicles, so a sudden stop is not uncommon. Upon arrival at the fire, a searching party is sent out to locate the underground fire hydrants or other water sources, while the two-wheeled hose buggy is unloaded from the fire engine. While the exposures are being added to the inferno, the pumper personnel and hose personnel get together and make a decision on the procedure of making the hose layout. By this time only three buildings would be burning and the spectators become tense as the firemen brace themselves for the first strong discharge of water. In the distance the pump operator accelerates the

Fire Truck with Two Hose Reels. Pump Has Double Impeller, 300 G.P.M. Capacity. Built on American Chassis.

engine and the hum of the engine tells everyone that at last the water is on its way. The sudden discharge of water throws the firemen off balance, and then dies down to a small stream like the kitchen faucet. The leaks in the hose are so numerous that they look like a bangalore torpedo converted into a fog nozzle. After fifteen minutes of desperate fire fighting, an explosion is heard. The water stops and all eyes are turned toward the fire engine, which is enveloped in a dark cloud of smoke. The crowd returns to their homes, not disappointed, not confused because this is an everyday occurrence at a fire in Japan. During a fire in Kobe in October, 1947, a total of twenty-two Japanese fire engines responded. After 48 hours of fighting, only eleven remained to complete the job.

The people of Japan are not indifferent to the aid given by the American Occupation Forces. Actually, I have found them more appreciative than most of the Americans, who take good fire protection for granted. I had the privilege of rescuing a two-year-old girl from the second floor of a burning apartment house, which was publicized in the Japanese newspaper *Mainichi*, English edition. Because of this newspaper article I received many letters of appreciation from Japanese, whom I did not know. A girl, Yasuko Yamada, in 6th grade, wrote, "We pupils were very proud of it, and shook hands with each other. What a wonderful thing that was. How can we express our thanks for the international love beyond the border? You saved one of the girls who is growing up for the construction of a peaceful Japan. The spirit, which devotes oneself to another in the case of emergency, is good instruction for the Japanese people at present." Another letter stated, "I doubt that there was a single action of an officer of the Japanese Army in China which would compare to your devoted achievement. I shame even once."



Fire Engine Built by Morita Pump Co., Osaka, Japan. Note Hand Siren Mounted on Front Windshield

A college student wrote, "Nothing is more clamoring for the international charity. Japan was defeated, and your country won the glorious day. The Japanese are apt to humiliate themselves, the Americans uphold the proudness of their Nation. The past historical record proves it right. It is of utmost importance that we collaborate with each other, without any prejudice or jealousy, under the basic principle of humanistic spirit."

The causes of fires by percentages are very similar to the percentages in the United States, except that a few other origins are added. The electrical wiring in the homes, the transformers, and electrical street wiring have been used so long that the insulation is hanging on in pieces. Each night that it rained everyone would make a special check of the CTO and CO_2 fire equipment. Almost without fail, there was an electrical fire of some sort when it rained. Also on the rainy nights many fires were originated by the misuse of inflammable liquids. In addition to these two well-known causes, the use of household charcoal burners added their quota. However, due to the long experience of the Japanese, fewer fires resulted from the charcoal burners (hibachis) than we at first anticipated.

The geographical location of Japan is a great contributing factor to the abundance of fires in that typhoons, hurricanes and earthquakes take a great toll. The Occupation Forces in Japan have made plans for any contingency of this type. The plan is divided into certain phases, and, of course, different actions must be taken according to the type of disaster.

In December of 1946, Japan suffered a large earthquake in the Wakayama, Kobe, and Osaka areas. The earthquake occurred about four o'clock in the morning, and I awakened when I rolled off the bed. The windows were rattling, and I tried to stand up. This was my first earthquake, so I did not realize the dangers involved. I thought that it was rather funny that I couldn't stand up, but I did manage to get out of doors, where I was met with a flash of intense blue light across the sky; the electrical cables of the street car lines had broken. I immediately contacted my Sergeant who was rather excited, and he yelled out, "Sir, Phase One has passed—Phase Two has passed—and as far as I'm concerned, Phase Three is in effect as—of—now" I instructed the Sergeant to keep all equipment at the stations until enough alarms had come in to determine the number of fires that we might have to fight, and the possibility of a conflagration.

During the following morning while the fires were still going good, I allowed the men to change shifts, eat, and get rest. The 129 fire engines were scattered over an area of 40 square miles and I was keeping tabulations on the loss of lives, etc., by radio telephone. It was the busiest day we ever spent in directing fires simultaneously in about twenty-five different locations, supplying gasoline, motor oil, food, and all of the essentials for continued operation. Everybody was functioning vigorously in all directions. Strange as it

(*Continued on page* 122)

Demonstration During Fire Prevention Week, 1947, at Kobe, Japan. Location Is at the Sannomiya Railroad Station. Man at Lower Right Corner Is Chief Yakima, Head of Fire School at Tachikawa, Japan

NETS SAVE SEVEN IN TWO APARTMENT AND HOTEL FIRES

Value of Training Men in Use of Net and of Good Maintenance Demonstrated

A Staff Report

TWO fires within a few days of each other in December demonstrated the value of the fire department life nets and the wisdom of training firemen in their use under every conceivable rescue condition. They also emphasized the importance of maintaining department nets in good condition, and having them readily available when needed.

The first of these fires occurred early on Christmas morning when a blaze wrecked the wing of the New Harmony hotel, Cayuga, street, Cohoes, N. Y., resulting in injuries to seven persons and forcing more than 60 persons to flee the old 50-room hotel.

The fire swept through the wing of the horseshoe building so rapidly that it was at first feared many lives had been lost. Prompt and effective work of the fire department, however, resulted in all the guests and employees being saved, twelve of them being removed by way of ladders and five more being rescued by means of department fire nets, following leaps from the second and third floors of the four story building.

Cohoes firemen directed by Fire Chief Charles S. Waters controlled the fire after a five-hour struggle which left the structure and firemen ice-coated, with property loss estimated at over $40,000. The west wing, where the fire started, was wrecked from the second to the fourth story.

The cause of the fire is reported undetermined at this writing. The first alarm was received by the department about 4:00 A.M., and upon arrival of the fire fighters the entire west wing was found charged with dense smoke and flames were making their way up through the interior. Many occupants of the hotel, for the most part permanent residents, were prevented from escaping by the stairways and fire escapes. A number were at windows prepared to jump to escape the advancing flames.

Firemen swung a life net into action, while others laddered the structure. Five of the patrons of the hotel were caught in the net, some of them receiving slight injuries. At least twelve others were brought down the ladders. One firemen, William de Wolfe, was partially overcome and two volunteers, Earl Quackenbush and John Sokolowski, suffered fractured ribs in the rescue and fire fighting operations. A partolman, Louis Manoni, was overcome by smoke during the rescue work.

According to Chief Waters, the dense smoke and rapidly spreading flames cut off a roof escape exit to another building as well as a fire escape on Cortland street (the hotel faces on Cayuga, Mowhawk and Cortland streets). Stores on the ground floor suffered only smoke and water damage.

The hotel previously had two minor balzes within 24 hours in October, according to Chief Waters. They occurred in the Cortland street wing. In 1922 the building was the scene of one of the biggest fires in Cohoes history. It was rebuilt after that fire.

Elderly Couple Saved by Net at Yonkers Fire

One of the most unusual fire net rescues of recent years was made in Yonkers, N. Y., when a three-alarm fire, of undetermined origin, swept through a 40-year-old apartment house at 1 Park avenue on December 28th. Ten persons were injured, none seriously, as a result of the fire.

Reported starting in the basement of a drug store on the ground floor of the four-story brick and frame structure, the fire extended upward through vertical openings to involve the upper part of the building. Heavy smoke conditions, aggravated by leaking gas from basement connections, resulted in an explosion which blew out some of the upper floor windows, and affected the fire-fighters.

The smoke and gases cut off Mr. and Mrs. Catherine Plukas 60 and 62 years of age respectively, in their fourth floor apartment where they were in iminent danger of suffocation. Mr. Plukas and his wife reached a window on the Park street side of the structure and called for help.

Owing to the grade of the street at this point it was impossible to utilize an aerial ladder truck and the couple could not be reached from the Ashburton side windows of the upper floor.

According to Fire Chief Garvin of the Yonkers Fire Department, the aged couple had about determined to jump to the street when firemen got the net under their window. Mrs. Plukas, by this time partially overcome, was pushed out the window by her husband. In her fall of between 40 to 50 feet, she turned over and over, landing on her side in the net, which had been hurriedly swung into position and was held by three members of the department and volunteers whom they had pressed into service.

Mr. Plukas followed his wife out the window. His body also turned over and over and he also was successfully caught in the net, without injury. Mrs. Plukas suffered a slight bump on the forehead in her fall but she was otherwise unhurt.

According to Chief Garvin, who directed the rescue the operation was handicapped by the heavy smoke condition, making for poor visibility, the slanting ground upon which the net holders had to stand, and the need of employing volunteers to assist the firemen in holding the net. Despite these drawbacks, the operation was 100 per cent successful, according to the chief.

Chief Garvin, six of whose men were overcome or affected by the smoke and gas conditions, credits the success of the rescue in large part to two factors; first, the intensive training in life net operations given all members of the Yonkers Fire Department and secondly, the policy of inspection and maintenance of the department in caring for all its fire nets. Only this training en-

(*Continued on page* 135)

Two Saved in Yonkers Following Four-Story Jumps Into Fire Net.

Yonkers, N. Y., firemen, aided by volunteers, laddering burning apartment at 1 Park avenue soon after elderly couple were rescued by dramatic drops into life net from location marked "X" on picture. Street grade prevented use of aerial ladders.

MANOA VOLUNTEERS HAVE NOVEL COMMUNICATIONS SYSTEM

Selective Notification of Members of Alarms Accomplished Over Leased Wires

TUCKED away down in Delaware County, Pennsylvania, in the Greater Philadelphia area, is the little community of Manoa, population about 3,000. Manoa boasts one of the most up-to-the-minute volunteer fire departments of the volunteers-conscious Keystone State. In personnel, equipment, and quarters, the Manoa Volunteer Fire Department is outstanding. But in one respect, at least, it is unique, if not exclusively so. That is in its method of alerting its active members.

Manoa firemen, like those of most progressive volunteer organizations, have never been content with the old orthodox bell or siren calling system, even if operated in some sort of code. But while most vamps have done nothing about it, the Manoa lads went to work on the problem with the net result that they came up with one of the simplest, most speedy methods of alerting their members that has thus far come to the attention of this journal.

Perhaps the fact that one of the originators of the system is an employe of the local telephone company may have had something to do with it, because the system itself operates on leased telephone wires; but regardless, it works, and it works to the satisfaction of the Manoa firemen.

The idea consists of simply utilizing these leased wires to "pipe" a signal right into the homes of the members, which signal operates on a selective basis, being received only in those homes where the fireman-member has indicated he will be available at night.

Two members of the Manoa department developed the idea and equipment —John Norman and Edward Eastlack. Norman labors, when not fire fighting, with the telephone company. He's a sound sleeper and it is rumored that one of the compelling urges that prompted him to go to work on the idea was his inability to hear the firehouse hooter or squawker.

Down at fire headquarters there is located a master control board on which there is a master electric clock, and approximately 50 small lamps, each identifying the name of an officer or member of the organization (with room for additional members to come). The names are printed on cards, which are enclosed in metal frames just below the little lamps.

From this master board, leased wires of the telephone company connect with the simple instruments in other designated homes or places of business of the volunteers. These home units consist of a signal bell and a couple of toggle switches beside it. One is marked "BELL ON" or "OFF", the other: "IN SERVICE" or "OUT OF SERVICE."

Thus, when a member arrives home and is ready for duty he flips the switch "IN SERVICE" which registers notification on the master board at the fire house that he is available for duty. At the same time, this opens up the alarm circuit into his home. Thus, by simply checking the master board at any time it is possible to determine the exact number of men ready for duty.

When a fire alarm registers at the fire house, it automatically rings those bells in the devices installed in the homes of all its members. Some of them located a mile or more from the fire house are usually out of their homes and on their way by the time they hear the general alarm sounded at the firehouse.

Only those members who have signalled "on duty" receive the signal notification from the firehouse. When the men are not available, the indicator lights on the master board, of course, are "out" and the alarm bells in those homes are turned off with it.

In the case of co-inventor John Norman, the heavy sleeper, the normal small bell signal is augmented by a larger bell, and a "fog light" which lights up when the signal sounds.

The Manoa Fire Department boasts

Gordon Dyke, a Member of the Fire Company, Flicks the Switch on the Signal Box Installed in His House. This Will Register on a Master Control Board in the Fire House. When a Fire Alarm Registers at the Fire House, It Also Rings These Bells Installed in the Homes of All Its Members

Edward Eastlack, Who Collaborated with John Norman on the Construction of the Unique Signal System Employed by the Manoa Fire Company, Looks Over the Master Control Board in the Fire House, Checking Men Whose Lights Are Lit, Showing Them Available for Duty

John Norman, Designer of the Manoa Fire Company's Unique Signal Device, Is a Heavy Sleeper, So Instead of Installing the Normal Small Bell Signal the Rest of the Members Have in Their Homes, He Set Up a Fog Light and a Large Sized Bell in an Old Desk. When the Fire Signal Goes Off, the Fog Light Lights Up and the Large Sized Bell on the Right Starts Ringing

an attractive fire house, with three pieces of modern equipment: a latest-type cab-over-engine pumper; an emergency unit and an ambulance. The 45 members drill periodically, both inside the firehouse and outside on available structures in the area. E. Richard Keller is both Fire Chief and the oldest company member, with 23 years continuous service.

NEW DIESEL-DRIVEN FIREBOAT PASSES TESTS AT PHILADELPHIA

Seventy-Five-Foot Craft Delivers 6,158 Gallons Per Minute at 150 Pounds Pump Pressure

A NEW 75-foot diesel fireboat was successfully demonstrated on the tidewaters of the Delaware River for the City of Philadelphia, Pa., in November of last year.

The craft incorporates many up-to-the minute ideas of leading fire fighting experts including those of top ranking engineers from the National Board of Fire Underwriters. The design ushers in a new trend of thinking on the part of "men in the know" with respect to the most desirable size for vessels of this type.

Although considerably smaller than many fire boats built in recent years, Philadelphia's new boat, the "Bernard Samuel" lacks none of the power punch of her larger predecessors. She has been delivered to the City of Philadelphia for less than $200,000.

During five hours of tests, the ship's four pumps showed a combined capacity of 6,158 G.P.M. at 150 p.s.i. when operated individually. With all pumps performing simultaneously, 5,875 G.P.M. at 150 p.s.i. were delivered through six 2" nozzles. Her average speed up and down stream was better than 17 MPH. Maneuvering at full speed with the fire tower elevated, she demonstrated the ability to turn in a tight circle at 5° list. Stop tests proved that the "Bernard Samuel" can shift from full speed ahead to full speed astern in about seven seconds. The power plant consists of an 800 HP General Motors Series 71 Quad-6 Diesel engine.

To the City of Philadelphia, with its extensive and steadily developing commercial water front properties along the Delaware River, the problem of adequate fire protection had long been one of real concern. When it became apparent that the three existing steam fireboats (all over 25 years old) could no longer be depended upon to handle the increasing responsibility, city officials consulted with the National Board of Fire Underwriters in an effort to determine the proper course of action. The result was a decision to immediately plan for the construction of a small diesel-powered fireboat of 5000 to 6000 G.P.M. capacity. There followed a comprehensive survey of Philadelphia water front conditions and a study of Diesel fireboats that had been put into service in other ports. An analysis of this information indicated that the new boat should have the following characteristics:

1. Pumping capacity of 5000 to 6000 G.P.M. at 150 p.s.i.
2. Smallest practical size and strictly functional design.
3. Construction of machinery and equipment to be of the simplest type so as to reduce capital cost and permit operation by a small crew.
4. Single screw to reduce possibility of damage to propeller from floating debris or ice.
5. Design characteristics and reinforcing to meet ice conditions.
6. Large trim tanks fore and aft to permit reduction in the vessel's draft for penetration into shallow waters or increase in draft when called upon for a towing assignment.
7. Welded steel construction and built to conform with American Bureau of Shipping and Coast Guard standards.
8. Maximum propulsion and pumping efficiency with both services provided by the same power plant.

After selection of the various components the displacement was fixed at approximately 210,000 lbs. and the following dimensions decided upon:

SPECIFICATION TABLE

Length Over All	75' 10"
Length between Perpendiculars	73' 4"
Breadth Molded	18' 0"
Depth Molded	8' 8"
Draft Aft	7' 6"
Draft Forward	4' 0"

The R. T. C. Shipbuilding Company of Camden, New Jersey, was awarded the contract for construction. The general shape of the hull is a modified V form having a large radius at the turn of the bilge while the forward sections are U shaped. The drag of the keel is about 3' 6" which with a large balanced rudder affords exceptionally fast handling ability. The reason for using well rounded sections both in the forefoot as well as for the shape of the bow was to enable the fireboat to be forced up on either ice or mud flats and, at the same time, have the ability to release itself and back off. This would not be possible using a bar keel and stem with sharp sections forward.

In the developing of the piping system for the fireboat, it has been so designed that in case of damage to any pump or its valves, such can be cut out without interfering with the functioning of the others. There are two sea chests, one port and one starboard. They are of a size and so piped that either one can supply the four pumps.

The ship's arrangement is as follows:

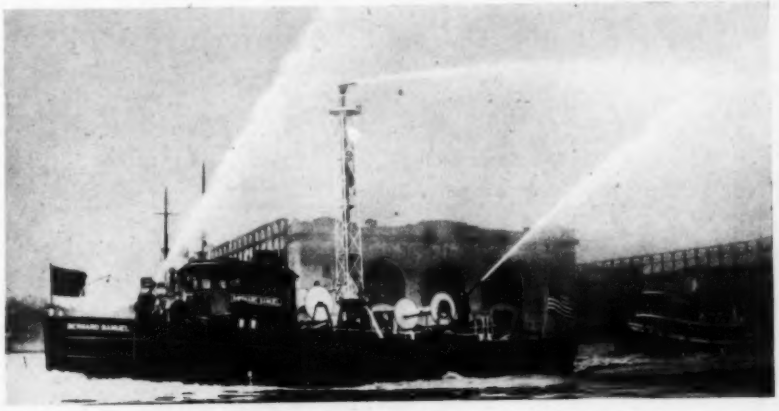
Forward there is a large forepeak trim tank that, when properly filled, will reduce the vessel's draft by 1' 9". This tank has three extremely important purposes:

1. It permits operation in waters of less than 6' depth.
2. Provides means of releasing the boat should she accidentally get ashore.
3. Enables the ship to break down heavy ice after she has pushed herself up on a floe.

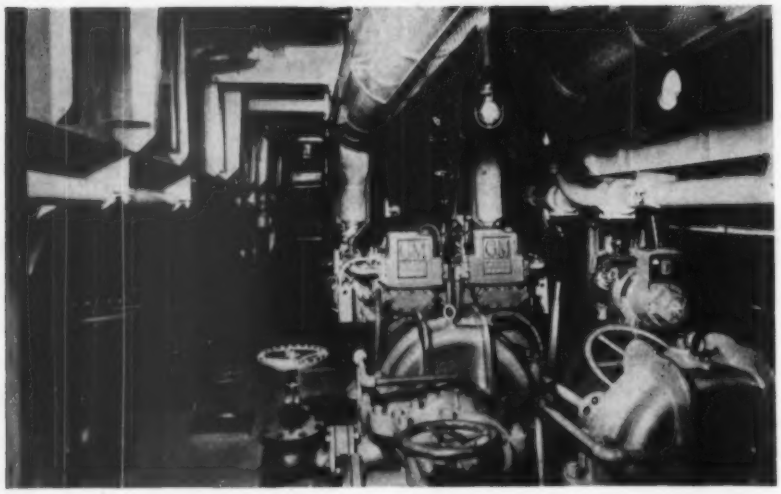
Abaft of the forward trim tank is a 1130 gal. capacity fuel oil bunker followed by a storeroom for miscellaneous items of fire fighting equipment.

The engine room occupies over 600 sq. ft. of space amidships and contains the main power plant, pumps and auxiliary machinery. In addition a 250 gal. portable water tank and 60 gal. lube oil tank are located in this area. The 800 HP General Motors Series 71 Quad-6 Diesel main power plant consists of four 6-cylinder GM engines mounted on a common base and driving the propeller shaft through a single 4 to 1 reduction gear.

Due to the fact that the engines can be individually de-clutched and turned to pumping duty as the need demands it was only necessary to install one engine plant to handle both pumping and propulsion power requirement. Each engine in the General Motors Quad-6 Diesel unit is equipped with a 166 BHP heavy duty front power take-off with Rockford clutch and drives a separate DeLaval two stage centrifugal pump. The DeLaval pumps have a capacity of 1500 G.P.M. at 150 p.s.i. and operate at 1800 RPM. Flexible couplings have been fitted between the engine and pump shaft to take care of



Broadside of Philadelphia's New Fireboat "Bernard Samuel" Underway with Her Three Fire Monitors Operating. She Is Also Equipped with Six Hydrants. The Boat Has a 5000 to 6000 G.P.M. Pumping Capacity and Performed at Better Than 17 MPH During Trials



Engine Room of the "Bernard Samuel" Looking from the Forward End and Showing the Arrangement of the GM Quad-6 Diesel Main Power Plant with Two DeLaval Centrifugal Pumps in the Foreground

any misalignment that might develop and eliminate torsional vibrations. Ship electrical service is supplied by a Buda 3 KW 120 volt Diesel generator DC set and a 2 KW 110 volt DC generator V belt connected to the main power plant. Batteries are floated on the line.

Other engine room machinery includes: an electrically driven compressor for operation of the air horn, electric bilge and ballast pump, and oil fired hot water heating system.

Aft of the engine room is another fuel oil bunker of 1115 gal. capacity followed by an after trim tank. With this arrangement of bunker and trim tanks both forward and aft, it is always possible to have the ship in the best trim by pumping from one set to the other.

The pilot house is located over the forward end of the cabin trunk and contains Sperry combination electric and hand steering gear, Adel controls and a specially developed signal system to the engine room. Ship to shore telephone communication system enables the Philadelphia Fire Bureau to be in constant contact with the fire boat and direct its operation.

On deck there are three fire monitors of 1500 GPM capacity in addition to six 3½" hydrants capable of supplying twelve standard 2½" fire hoses.

The fire tower elevating gear is electrically driven through cone drives and will stay at any angle of elevation without a brake when the electrical power is shut off.

The vessel is equipped with two hose reels of the swivel type that are operated by gear cranking. One reel takes 1000 feet of 3½" hose and the other 1000 feet of standard 2½" line.

N.B.F.U. Warns Against Portable Heaters

Many deaths in fires resulting from the operation of portable oil heaters already have occurred this winter, and many more will occur unless people use greater care and caution, the National Board of Fire Underwriters warns. The danger is greatest during cold weather, but householders in many parts of the country will continue to use the heaters until Spring.

Good design and substantial construction are the first essentials for safety. These can best be obtained by providing a heater that has been examined and listed by Underwriters Laboratories, Inc.

For greater care and caution in the operation of oil heaters, the National Board's engineers suggest the following safety rules:

1. Thoroughly inspect and clean the heater before putting it into operation for the first time.
2. Keep it clean and free of dirt at all times.
3. Never place the heater near curtains, tablecloths, or other hanging material.
4. Never place it where it can be knocked over. Many fires have resulted when heaters were placed in line of traffic in the home or were knocked over by children at play.
5. Never fill the heater while it is lighted.
6. Don't operate the heater in a closed room. See that a door or window is open slightly to assure a good oxygen supply. This is essential even in the coldest weather.
7. Don't leave the heater unattended when it is first lighted. Watch the flame and adjust it so it produces no smoke.
8. When refilling the heater with oil, take it outside the building. Keep the fuel supply outside.
9. See that the latch holding the top part of the heater to the lower part holds the two parts of the heater together securely.

Portable heater tragedies can be caused in the following manners:

Rapid burning of soot accumulations which results in a "flash flame" resembling an explosion;

Ignition of hot kerosene vapors resulting from spillage when refilling a hot heater;

Heater upset, or spilling of fuel due to faulty latch;

Heater igniting nearby curtains or upholstery;

Asphyxiation caused by exhaustion of oxygen supply in a closed room; the heater also produces quantities of carbon monoxide, a deadly flammable gas, when the oxygen supply in a room becomes depleted.

The rules suggested above will prevent fires and poisonings from these causes.

New York Plans Pier Protection

A program to increase New York City's pier protection has been submitted to Mayor William O'Dwyer by G. Joseph Minetti, Commissioner of Marine and Aviation of that city. The project, estimated to cost $2,500,000, is expected to produce cuts of up to 75 per cent in Pier insurance. According to Commissioner Minetti, the improvements should be well under way by the middle of 1949.

The Commissioner reported that 110 city-owned piers will require almost completely new fire protection facilities, while nineteen are considered to be adequately protected and twenty-one, partly protected.

The protection program in shedded piers calls for installations of fire stops in substructure accessible to standpipe hose outlets; six and one-half inch circular openings in pier decks every 25 feet; six approved distributor nozzles for each pier; sealing off bulkhead platforms between adjoining piers, and special installations for piers handling vegetable fibres in more than 500 bales, or piers with railroad fendering.

For superstructures, the program proposes automatic sprinkler systems with supervisory alarm system; fire curtains; fire resistant enclosures; manual fire alarms; access to roof at inshore and offshore ends; fire walls and fire doors to separate adjoining piersheds; standpipe systems and separating domestic water lines.

For unshedded piers, the program calls for transverse trenches every 100 feet and, on concrete unshedded piers, installation of six-and-one-half-inch circular openings.

Charlotte Pension Fund in Good Shape

The Charlotte, N. C., Firemen's Retirement system, set up less than two years ago, now has assets of more than $230,000, according to report made by trustees of the plan.

L. L. Ledbetter, treasurer, reported as of Jan. 15th, funds on deposit or invested in interest-bearing securities at the end of 1948 was $222,734.83. Since Dec. 31st, he said, that amount has been increased by additional net reserves of $8,383.89, making the total assets, $231,118.72.

Six members of the fund are now retired and drawing pension benefits totaling $794.22 per month.

Members of the board, headed by Guy O. Bagwell as chairman, were notified that proposed bills have been drawn to amend the retirement act in two respects. One revision would base a member's pension benefits on his authorized salary, instead of deducting amounts lost by leave or illness. Another would provide for a rebate, to the widow or heirs, of any amount paid into the fund by a member who died before withdrawing his full investment in benefits.

D. G. SPENCER

FOURTEEN HURT IN COLLISION OF PUMPERS ON WAY TO FIRE

Responding to Small Out-of-Area Fire Call, Two Fresno Fire Trucks Are Wrecked with Heavy Damage

TWO pumpers of the Fresno, Calif., Fire Department crashed together at one of the city's most congested street intersections, Van Ness Avenue and Fresno Street, on December 12, 1948, resulting in injury to fourteen persons, nine of them firemen, and almost total destruction to the two fire department vehicles. Several firemen were injured seriously and all riding the two rigs had narrow escapes from death. Six private cars were also damaged in the accident.

Picture Shows the Overturned Fire Truck and Some of the Cars That Were Sideswiped When Two Fire Trucks from Different Stations Collided While Going to a Minor Fire in Fresno, Cal.

Trivial Alarm

The alarm for a trivial fire to which the two units were responding was the second to be turned in within a few minutes preceding the crash. The first call, from Mariposa and M Streets, was answered by the regular equipment from fire stations in the 700 block of Van Ness Avenue and Fresno and E Streets, but no fire could be found. While these crews were en route back to their stations the alarm came in from Merced and M Street, and this was answered by the two companies that were filling in for the two units still out of service on the first call.

It may be that indirectly this fact had something to do with the collision inasmuch as drivers of the apparatus involved in the accident were not as accustomed to responding over thoroughfares in that particular busy intersection as the operators of the apparatus for which they were substituting.

Oddly enough, five members of the Fresno Fire Department were injured at the same Van Ness and Fresno Street intersection in September, 1937, in a collision between a chief's car and a squad truck. None of the firemen was injured seriously. Acting Battalion Chief Roy Lacy blamed the congested evening traffic, which obscured his vision, for the accident.

In the latest crackup, which occurred at 11:45 A. M., one pumper was headed east on Fresno Street when it was struck by the other unit, which was northbound. The eastbound pumper, following the impact, hurtled end over end through the intersection into a crowded traffic lane on the opposite side of the street, hurling its occupants through the air. It came to rest on its left side among six automobiles that had halted at the intersection to give the apparatus right-of-way.

The other pumper continued after the impact for 87 feet, carrying away the automatic signal at the northeast corner of the intersection before coming to rest. Its riders were also thrown to the pavement.

Most seriously injured of the firemen was R. H. Clark who was riding the eastbound pumper. He was thrown beneath the truck as it fell and pinned to the pavement by a portion of the frame and the left running board of the wrecked vehicle. He was wedged so tightly beneath the wreckage he could not be removed until a wrecker with hoist was taken to the scene to lift the heavy apparatus. Clark suffered a fracture of the right arm and head and chest injuries.

Others seriously injured were A. J. Smith, driver of one of the pumpers, fractured right arm, back injury and shock, and Norman Dooley, who suffered a spinal injury when one of the pumpers crashed into his automobile.

Danger of Ignition

The crash left the scene strewn with wreckage, hose and fire equipment from the trucks and spilled gasoline, oil and water. There was imminent danger of ignition of the gasoline fumes but level headed spectators and uninjured firemen kept the crowds and careless smokers from the contaminated area.

Fire Chief L. A. Moore declined to estimate the damage to the fire equipment but other reports of replacement costs ran as high as $20,000 each.

Temporary Personnel Needed

Following the accident, Mayor Glenn M. DeVore requested additional temporary personnel with which to maintain the city's fire fighting strength. His estimate of the damage was $20,000 including demolition of one pumper and cost of repairing the other. Extra mechanics were put to work to speed repairs, which were facilitated by the use of material budgeted for units now in course of construction. To help meet the emergency caused by the accident, two old and obsolete standby units, long discarded but retained against just such a need, were placed in service.

Damaged Fire Truck, Which Collided With Another as They Were Travelling to a Minor Fire in Fresno, Cal. Fifteen Persons, Nine of Them Firemen, Were Injured in the Crash. Damage to the House to Which They Were Going Was Estimated by Police at $10.

FLORENCE FIREMEN OVERCOME HANDICAPS IN UPHILL BATTLE

Costly Furniture Store Fire Proves Need of More Manpower and Equipment

DESCRIBED as the worst fire to strike the City of Florence, S. C., since the burning of the Carolina Theatre in 1939, a spectacular blaze roared through the three-story Rainwater Furniture Store, on December 6, 1948, threatening other buildings in the block on North Dargan Street and causing property damage estimated at over $250,000 before a badly handicapped fire department could master it.

The Rainwater building, in the heart of downtown Florence, was heavily stocked with holiday furniture, mattresses and other combustibles which fed the hot fire. For a time it appeared that adjoining stores—Millers M. System Grocery Store to the south, and Efird's Department Store adjoining the burning building on the north, would become involved. Efforts of the Florence Fire Department, under Fire Chief J. E. McKain, were successful, however, in confining the blaze to the Rainwater building.

The fire was reported discovered by Ira Rainwater, Jr., when he heard a transom fall to the sidewalk from above the front door. He said he found smoke coming from the stairway and "used two hand extinguishers" in an effort to fight the flames. He then telephoned the fire department which received the alarm at 10:09 A. M.

How much time was lost in transmitting the alarm is unknown, but in his report to FIRE ENGINEERING, Chief McKain states that when the department received the call, both the second and third floors of the building were involved.

The entire Florence department was quickly on the scene, and aid was requested of Darlington, S. C., which sent a 750 G.P.M. pumper and crew to the fire scene. Lake City, although not requested, dispatched a pumper and crew, which located at the Florence fire station until Florence forces returned to quarters.

No Ladder Truck in City of 18,000 Population

The Florence Fire Department consists of a chief, assistant chief, seven full-time and thirteen call men. There are four pumper units but no ladder truck. The pumpers include two 750 G.P.M., one 600 G.P.M. and one 350 G.P.M. units. The combined forces, including Darlington, operated nine streams on the fire, delivering a total of approximately 2,750 G.P.M. for about seven hours. The fire was not struck out until 10:15 P. M.

According to Chief McKain, his men were handicapped by the heavy "burglar-proof" reinforced glass and barred windows at the store. Lacking aerial and other adequate ladder equipment, it was impossible to ventilate the burning structure.

In the struggle to open up the windows, city policemen attempted to blast them out with rifle, carbine and shotgun fire, some of the weapons coming from the local National Guard Unit. An erecting and dismantling service furnished a truck with a large mounted crane which was also used in the effort to knock out the windows of the structure.

Upon arrival, Chief McKain attempted to lead his men into the front door of the store with a hose line, but they had hardly reached the interior when an explosion of gases blew in some of the windows behind them and they were forced to beat a hasty retreat, leaving their line.

Not only short of ladder equipment, but lacking manpower, citizen volunteers were pressed into service during the critical stages of the fire.

Business Section of Florence, S. C., Showing Burning Store in Background. This Picture Was Taken Six Minutes After Alarm Was Transmitted

Company Operations Directed by Radio at Big Warehouse Fire

Chief Henry Chase, of Miami, new president of the International Association of Fire Chiefs and poineer exponent of two-way radio in the fire service, put into practice what he has preached, in combating what the press termed Greater Miami's worst fire of 1948.

The blaze swept through the 500-foot, block-long warehouse occupied by the Colonial Storage Co., 80 NE 26th street, and the Wonderspray Products Co., 40 NE 26th Miami. The storage building was filled with a wide variety of goods, ranging from matches and paints to chemicals. Several trucks, loaded with matches, provided additional fuel for the fire, and hazards to the fire fighters.

The fire apparently started in the west end of the structure and worked eastward. It was reported at 10:13 P.M., and by the time the first-due company reached the scene, the fire was out of control.

Additional alarms, five in all, brought twelve pieces of apparatus to the scene. All companies were located and their operations directed by Chief Chase, utilizing the two-way radiophones with which each Miami piece of apparatus is equipped.

Firemen were handicapped by a strong, chill (for Miami) northeast wind that helped spread the flames through the structure. The wind, however, aided in preventing the fire from reaching a row of frame residences west of the warehouse. As the roof of the building collapsed about 10:30 P.M., flames shot high in the air and a ladderpipe, mounted on the department's longest ladder, was operated as a water tower to wet down roof areas. The collapse engulfed three loaded trucks.

Volunteers, including several sailors, were able to remove some loaded trucks from the building. Switchmen worked hurriedly to shuttle railroad cars on the F.E.C. tracks out of danger as the fire spread. At 11:00 P.M. the railroad ties were burning. At 11:30 the entire east wall collapsed, followed shortly by the northeast wall. Several firemen narrowly escaped injury when a large wooden door buckled and fell out knocking them down. Throughout the fire the men were affected by the fumes given off by the burning matches, none however was seriously affected.

By midnight the fire was under control, but companies remained on the ground all night overhauling and guarding against rekindle.

As the fire reached threatening proportions, the multiple alarms followed each other rapidly. Chief Chase ordered all off-duty men to report for duty. Property loss was said to be at least $250,000.

Improved Alarms Urged

Approved fire alarm systems are needed in 57 of the 58 school buildings in Chattanooga, Tenn., according to Chief Mike Quinn of the Fire Prevention Bureau, in his annual report. The report also recommends the installation of sprinkler systems in 31 school buildings and that the City Park School building be condemned unless a sprinkler system is installed.

HOW HOSE SPACE IS DETERMINED IN DESIGN OF FIRE APPARATUS

Four Leading Builders of Motor Fire Apparatus Give Design Factors for Hose Storage

HOW builders of fire apparatus determine the size of hose body to accommodate a specified load of hose is indicated by the table and comments herewith.

Four of the leading builders were contacted, and the information they have provided will prove of interest and use to those anticipating the purchase of fire apparatus.

Their statements are as follows:

Co. A.: We have made it a standard practice of figuring our hose body capacities on triple combination units by using a factor of 90 cubic inches per foot of 2½-inch hose, and for city service jobs, with top mounted hose compartments, we have a minimum factor of 80 cubic inches per foot of 2½-inch hose.

These factors have been time tested and are from experience, and we have taken into account the packing of brand new hose of all types and manufacture.

Co. B.: We have a practice of figuring 80 cubic inches of body space for each foot of 2½-inch standard fire hose to be carried. Usually, it provides for ample space for carrying hose. Quite frequently the customer finds that he can carry an extra 100 or 200 feet in a body that we have calculated for a 1000 feet on the above basis. It all depends on the kind of hose, the way it is laid, the age of the hose, etc.

We believe it would be an excellent idea if a commonly accepted formula for figuring hose body space could be standardized throughout the industry and to include not only 2½-inch hose but 1½-inch and 3-inch as well.

The following are the figures on which we base our hose body estimates for various sizes of hose:

1½-inch hose requires 32 cubic inches per foot of hose.

3-inch cotton double jacketed hose requires 110 cubic inches body space per foot of hose.

3½-inch double jacketed fire hose requires 135 cubic inches body space per foot of hose.

Co. C.: We figure 80 cubic inches of body space are required for each foot of 2½-inch double jacket hose. Forty cubic inches required for each foot of 1½-inch double jacket hose.

We rate all of our hose bodies for capacity based on the above figures.

Our figure was based on new hose, which is in some cases rather stiff and unwieldy, and we have adopted our figures as a matter of protection.

At one time we used a lower figure and ran into some complaints that they could not get all the hose in the body that we told them could be loaded.

Hose made by different manufacturers varies in its pliability, particularly when new, and so the actual footage will vary according to the make of hose laid in the body and also the type of hose loading pattern that is followed.

Co. D.: We figure 80 cubic inches to one foot in length of 2½-inch double jacket hose and 40 cubic inches per foot in length of 1½-inch double jacket hose. This is about 5 cubic inches more than the Army uses to figure and seems to be a fair average for most departments.

It makes a lot of difference whether the body has interfering wheelhouses or not, and how many folds there are to 1000 feet of hose.

When extra size booster tanks are used and shorten the hose body, then the rule does not work even at 80 cubic inches on account of increased number of folds.

Another problem is the make of hose. Some brands pack much better than others. White hose packs better than the wax and gum, which is stiffer.

The accompanying table presents the figures supplied by builders in a form for easy comparison.

Diameter of Hose	Cubic Inches of Space Allotted per Foot of Fire Hose, in Hose Body Design			
	Co. A	Co. B	Co. C	Co. D
1½-inch c.r.l., d.j.		32	40	40
2½-inch c.r.l., d.j.	90 (for Trip. Combs.) 80 (for City Service, top mounted compartments)	80	80	80
3-inch c.r.l., d.j.		110		
3½-inch c.r.l., d.j.		135		

c.r.l. = cotton, rubber lined.
d.j. = double jacket.

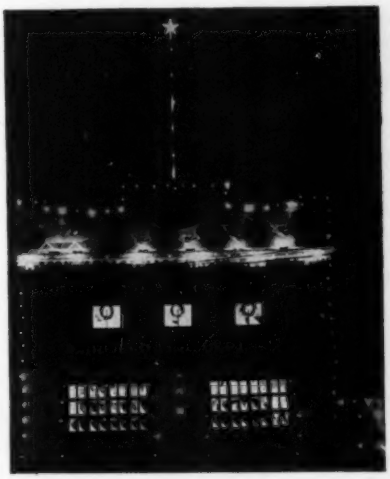
Fairfield Firehouse in Yule Dress

Fairfield Fire Department No. 2, better known as Tunxis Hill Firehouse, in Fairfield, Conn., went all out this year to establish a record for Christmas firehouse decorations. The occasion marked the first time that the department donned special dress for the holidays, since its organization thirteen years ago. So successful were the efforts of the members, both paid and volunteer, that people drove from miles around to view the result.

The Tunxis Hill Fire Department was organized March 19, 1913, its total equipment at the time being one old hand-cart. A few years later the present firehouse was built and a Model T Ford added. In 1928 the Town took over the fire station and bought an American-La France 500-GP.M. pumper and put on two paid men, one for each shift. In April, 1943, two more paid men were added.

In November, 1944, the department received an American-La France 65-foot aerial truck to cover the entire Town of Fairfield and to assist the other three companies in the community. Two additional men were engaged, and in March, 1945, another two were added, making the present total of eight men, who work four on a shift. In April, 1948, an American-La France 600 G.P.M. pumper was secured to replace the 1928 unit. Today there are four companies and twenty-two paid men in the Town of Fairfield. Each company has two pieces of apparatus. The department has its own fire-switchboard and alarm room, and three of the apparatus units are equipped with two-way radio, operating from Police Headquarters.

The Christmas decorations were started by a committee of volunteers headed by Louis Kiraly. Others were Chester Raymond, Gene Bruzdzienski,



Fairfield, Conn., Fire Station in Christmas Dress

Leo Cocazza, Edward Lasko, Edward Hermann, Joseph Stopa, Daniel Sullivan, Anthony Vukan, George Babey, Edward Makucevich, Louis Stopa, Joseph Dondero and Chef Joseph Makucevich.

The eight paid men handled the details of erecting the plywood Santa Claus, sleigh, reindeer and lights. They are: Michael Kranyik, Victor Grassi, Joseph Bodnar, Frank Toth, Frank Stopa, Stanley Makucevich, Gasper Cataldo and Carl Johnson. The company's 65-foot junior aerial was profitably used in the installation.—Carl R. Johnson.

May Vote on Making N. Y. Fire Bonus Permanent

New York's Mayor William O'Dwyer will discuss with the Board of Estimate the question of a referendum next fall on freezing into the city budget the $750-a-year cost-of-living bonus now received by 30,000 police and firemen on a temporary basis, it is reported.

A bill to submit this salary-freeze plan to voters was presented at Albany in January by officials of the Uniformed Firemen's Association and Patrolmen's Benevolent Association.

City officials are reported studying the political effect of this referendum (New York votes on a mayor on November 8th) as well as the precedent it will establish for dealing with bonuses of thousands of other employes. Politicians, it is said, consider it likely that the Mayor would recoup, through support of the bill in Albany, any votes among the uniformed forces and their families, which he might have lost recently by attacking the selection of Chief of the Fire Department through civil service.

Automatic Alarm Credited with Saving Old Hotel

Some time ago the Greenwood House, combination hotel and stores, of Greenwood Lake, N. Y., installed what was then a new automatic heat actuated fire detection and alarm system. The proprietors of the 20-room 50-year-old structure, as well as the storekeepers were concerned lest fire wipe out their holdings, as it had previously done to another structure at almost the same location. Members of the Greenwood Lake Fire Department, Chief Fred Christman, also displayed interest in the system which was equally new to them.

The particular system installed consists of an audible and visible alarm device mounted on the exterior of the hotel, in turn connected to thermostatic heat detectors, so located as to best protect the property. This alarm system operates on the temperature-rise principle, the thermostats breaking a circuit when the temperature reaches a prescribed limit (in the case of the particular installation, said to be 165° F.) actuating a loud siren and a flasher light which is intended to notify any passers-by to call the Fire Department.

The hotel was equipped with a number of detectors installed at locations such as the kitchen, where fire was most likely to develop.

On the evening of January 19, 1949, the stores were closed and there were said to be three occupants of the hotel, and the manager, Charles Christ, in the structure when the strident squawking of the siren sounded and the notification signal flashed its warning message. The time was about 7:25 P. M.

The first reaction of the neighbors, as well as the management, was that perhaps the local firemen were conducting a test, such as they had held on a number of previous occasions. As the alert continued, however, the police responded and at about the same time, the manager investigated and found fire in the kitchen. There was considerable smoke in this area and in the adjoining store. About this time, too, ex-chief Herbert Wilson, of the local volunteers, reached the scene from his home, three blocks distant, where he had heard the signal.

At 7:28 P. M., the corner box near the hotel was pulled, and the two Greenwood Lake Companies, No. 1 and No. 2, were quickly on the scene. The fire had by this time penetrated the ceiling of the kitchen, and had communicated to the shelving of the retail store next door, involving the flimsy wallboard partitions and woodwork.

Greenwood House, 50-Year-Old, 20-Room Frame Structure and Stores, Scene of Fire. Automatic Alarm Indicator Is Mounted at Right of Entrance Door of Hotel

The booster line from No. 2 Company was stretched and operated on the fire, while a heavier line was being laid to back up the unit. The prompt response and effective work of the volunteers held the losses on building and contents to $350.

The alarm also served to alert the guests and employes of the hotel and get them safely out of the structure.

Investigation into the blaze by Chief Christman disclosed that the fire was caused by an overheated kitchen range. The heat had actuated two of the thermostat heads. It was only necessary to replace the two thermostats and a portion of burned connecting wire in order to restore the signal system to use.

City Perilled by Break in Water Main

Break in a 20-inch water main at the Walnut Street Pumping Station, Lynn, Mass., on December 3rd, created an unprecedented potential fire hazard when water pressures dropped from about 65 pounds to 20 pounds or less, seriously affected sprinkler systems, and gave city officials and residents several hours of concern.

The break occurred during calking operations of the big main, and resulted in the near drowning of a water department employe, caught in the flood that released millions of gallons of water.

The City of Lynn has no tie-in with the Metropolitan water supply which serves numerous communities in the Lynn area, hence until repairs could be made, a fire hazard of considerable proportions existed.

In view of the critical situation, Fire Chief Joseph E. Scanlon of Lynn, called for and received assistance from the fire departments of nine nearby cities and towns. Revere, Mass., sent two pumpers and one each was furnished by Melrose, Saugus, Peabody, Salem, Marblehead, Swampscott, Malden and Lynnfield.

The pumping units, most of them with loaded booster tanks, were placed at strategic points, one being located at the main plant of the Lynn Gas & Electric Company to supply water from a hydrant. Hose lines were stretched across Broad Street, causing a traffic jam.

Fortunately, no serious fires occurred during the period the city was with reduced water supply. The break affected the public and commercial buildings and industries, the large General Electric plant dismissed its employees.

According to Water Commissioner James C. Callahan, of Lynn, hook-in with the Metropolitan system was turned down because of the high annual fee desired. It is understood on good authority, that efforts had been made to induce the City of Lynn to tie in with neighboring Saugus, Mass., so that in case of a bad break in the water service of either community, water could be sent from one to the other during the emergency. Reported cost of such a tie-in would be about $10,000 annually to Lynn.

The Metropolitan Water District shortly is to start a new pipe line to serve Swampscott and Marblehead. This line will pass through Saugus and Lynn.

According to Commissioner Callahan, the lesson to be gained from the threatened disaster is that the city must be prepared for like emergencies in the future.

Left: Fire Started from Overheated Oven (Lower Right) and Extended to Ceiling and Through Wall at Right Into Adjoining Store. Thermostat Over Range Opened and Actuated Alarm. Right: Fire Communicated to Store Where Firemen Stopped It

Selectmen Support Firemen Against Complaint

Specific charges made by a citizen of Stoneham, Mass., against the local fire department, following a fire at 18 Chestnut Street in that city, which cost the lives of two children, resulted in a report and recommendations by the Board of Selectmen in which they clear the department of accusation of delay in responding and inefficiency in rescue and fire fighting operation.

At the same time, the Board recommended the addition of ten paid men to the present force of ten permanent and sixteen call men, thus doubling the permanent force; also they advocated the addition of adequate drilling facilities for the firemen; modernizing the present communications system of the fire and police departments by installing two-way radio in the fire department and in the police ambulance. Further, that instead of waiting until 1949 when it becomes mandatory by State Law to equip the fire department with masks, these be purchased at once, together with an inhalator.

The fatal fire, in a dwelling house, was attributed to a flooded oil burner stove in the kitchen of the dwelling. An observer had blamed the department for lack of apparatus at the fire, shortage of men to operate the equipment, claiming there were no workable ladders, and there was no water for 20 minutes to one half hour, no searchlights, and lack of direction by any one in authority.

The investigation disclosed that there was a critical delay in turning in the alarm, that paid men and apparatus responded promptly, laddered the building, brought out the two children via the aerial ladder and by the time fire forces from neighboring Reading and Wakefield arrived within minutes of the call, on a mutual aid arrangement, the fire was under control.

Fire Department Instructors Meet

Over 730 registrants participated in the four-day (and night) Twenty-First Annual Fire Department Instructors Conference in Memphis, Jan. 11-14, 1949. They came from nearly every state in the nation and Canada.

The business program was highlighted this year by thirteen panels, question box and round table sessions in nearly all of which audience participation was invited. In addition there were thirty-two other topics listed in the agenda of the Conference, including opening and closing remarks and luncheon addresses.

As usual, dynamic Richard "Dick" Vernor presided as Chairman of the Conference and, with the assistance of his able stand-bys, Emmett Cox, secretary, and Robert Hamm, assistant secretary, together with almost the entire Memphis Fire Department, headed by Fire Chief Connie O'Sullivan, kept the fast-paced Conference on the beam. This year, two of the F.D.I.C. stalwarts were missing, but not forgotten; they were Harry K. "Smoky" Rodgers and Captain Harry Wolf, both of Chicago, who are recovering from illnesses.

Business sessions and Conference lunches, served by the Memphis Fire Department, were all held at the Municipal Auditorium. Meetings of the Joint Evolutions Committee, and the N.F.-P.A.'s Firemen's Training Committee, were held on Sunday and Monday preceding the conference at fire headquarters.

Ladder Evolutions Publication Approved

A noteworthy accomplishment of the Committee on Firemen's Training of which W. A. Ross is chairman and the Joint Evolutions Committee was the completion of and acceptance by the two groups of the newly completed pictorial training manual on handling ground ladders.

It is reported that one of the next and most immediate projects of the Joint Evolutions Committee will be the preparation of a similar work on aerial ladder evolutions.

The Training and Joint Evolutions Committees also heard reports of subcommittees on other related projects and publications now being undertaken by its members. These include among others, the Results of Firemen's Training; Pump Operator's Manual; Electricity in the Fire Service; and The Fireman's Individuality in Public Relations.

As in the past, registrants at the Conference will receive a set of all available copies of the lectures and addresses given at the Conference.

San Diego Makes Circus Toe the Mark

On Sept. 15, 1948, on the second night of a two-day performance in San Diego, the Ringling Bros.-Barnum & Bailey circus allowed an estimated 1500 persons in excess of their seating capacity to enter their big tent, according to a report by S. O. Roppe, Fire Marshal of the San Diego Fire Department.

Persons were sitting in the aisles and exits as well as in front of the grandstand and they were also standing in the aisles and exits. In addition, the exits were blocked by canvas drops and one main exit was blocked by a motor vehicle.

These violations were not only observed and reported by members of the Fire Department and Fire Marshal's office, but the standees and others blocking the aisles and exits were photographed.

Arthur M. Concello, manager of the cricus, was arrested and charged with violation of two sections of the California Administrative Code, Sec. 494, blocking of exits, aisles and passageways by persons for whom no seats were available and by other obstructions; and Sec. 499, permitting persons in excess of the legal capacity to enter the tent.

At the time of his arrest, Mr. Concello, through his attorney, pleaded not guilty, and posted $500 bail on the two counts. Subsequently on Nov. 23, 1948, Mr. Concello's attorney asked for bail reduction to $200 on each count, then asked that bail be forfeited, which the court allowed.

This account, forwarded by Marshal Roppe, at the suggestion of Chief George Courser should give food for thought. The Ringling Bros.-Barnum & Bailey circus holocaust occurred in Hartford, Conn., on July 6, 1944. The death toll is given as 168. Following the tragedy, the principals were sentenced to heavy fines and jail terms. The circus was permitted to continue, after instituting certain safeguards against a repetition of the fire, on the theory that the fines could only be paid off by this means.

It will be recalled that the catastrophe resulted in nationwide stiffening of the fire prevention laws. Fire departments all along the circus's itinerary (and those of other out-of-door entertainments) have been painstaking to check these traveling shows for fire violations, and in not a few instances a number have been found.

From the experience of Chief Courser and his aides, it would appear that the lessons of the Hartford tragedy have already been forgotten or, if remembered are being deliberately and wantonly ignored by the circus management.

This Might Have Been a Photograph of the Big Tent of the Ringling Brothers-Barnum & Bailey Circus, on July 6, 1944, Before the Fire and Panic That Claimed 168 Lives at Hartford, Conn. It Isn't, but It Is a Picture of Potential Tragedy. It Shows the Same Circus with Aisles and Exits Overflowing and Blocked by Persons, Mostly Young Folks, on the Night of September 15 Last, at San Diego, Cal. By Means of Such On-the-Spot Pictures, the Fire Department Is Able to Bring the Violations and Violators Into Court

Grand Rapids Firemen Get Gift of Disaster Unit

The Grand Rapids, Mich., Fire Department is the proud possessor of a modern disaster truck which was the gift of the Grand Rapids Motor Coach Company. The presentation brought to reality a project which claimed the attention of many individuals, and Grand Rapids firms over a period of months.

The vehicle, converted from a standard motor coach, replaces the old coffee trailer donated to the department by the Metropolitan Club membership in 1934. When Louis J. Delamarter, president of the Grand Rapids Motor Coach Company, became interested in replacing the old vehicle, the Metropolitan Club and members of the fire department accepted his proposal to provide the more modern unit. The Club disposed of the old coach and applied the money to fitting out the new one, which is manned and operated by members of the 321 Club, an organization composed of citizens who are interested in the fire department. The members, who respond with the unit to multiple alarms or on special call, are trained in first aid and are capable of emergency treatment of firemen and others.

Space is provided in the unit for serving hot coffee and refreshments. It is equipped with an electric coffee urn, double sink with running water and two-burner gas plate. The vehicle supplies its own electricity and the gas is carried in bottles. The water is brought in through an outside connection. In the rear is a first-aid compartment separated from the remainder of the coach by swinging doors. There are chairs, one bed and complete first-aid equipment for treating the injured.

The entire interior of the coach is lighted by fluorescent tubes. Windows of the first-aid compartment are curtained. Later, two-way radio will be installed, using the frequency operated by the fire department. Fred DeVries, president of the 321 Association, Jack Nederweld, chairman of the association's coach committee, and Gerald Derrick, association vice-president, said all members of the association secured donations of equipment for the coach. Work on the coach was directed by Wallace Imhoff, a fireman, assisted by numerous other Grand Rapids firemen.

Fire Chief Frank H. Burns has expressed gratitude in the name of the department to the donors and the Box 321 association for their contribution. Writing FIRE ENGINEERING, he says, "I'm sure firemen and other representatives from other cities will be interested in this development and appreciate our gratitude." He invites readers to inspect the unit whenever they are in Grand Rapids.

Fighting Fire with Fire

Firemen on ladders bring acetylene torches to bear on steel-shuttered windows of loft building at 298-300 Mercer Street, New York, to get at flames raging within the five-story structure.

New York Firemen Use Cutting Torches

Fire, for which five alarms and special calls were sounded on Jan. 9, 1949, caused heavy loss the 5-story loft bujlding at 739 Broadway (running through to 298-300 Mercer St.) occupied largely by clothing manufacturers. Adjoining structures, with miscellaneous occupancies, suffered water and smoke damage.

Seven firemen were overcome fighting the stubborn fire, in the process of which cutting torches were used from ladders to open steel shuttered windows.

The chronological response to this fire was as follows:

8:48 P.M. Signal 5-7-394 Mercer and Waverley Pl. Eng. 33 Lad. 9 Chf. 3rd Batt.

8:50 P.M. Signal 394 Eng. 72, 13, 18 L 20 Dep. Chf. 1, Batt. Chf. 6 Water Tow. 2

9:09 P.M. Signal 2-2—394 (second alarm) Eng.14, 5, 24, 28; L 3; To change locations E 32-33; 34-18; 21-5; L 1-9.

9:21 P.M. Signal 3-3—394 Eng. 55, 30, 31, 17, 16; L 5; To change location: 221-17; 44-16; L 12-5, 7-3.

Grand Rapids Fire Department Presented New Disaster Coach

Left: Fire Chief Frank H. Burns, Grand Rapids, Mich., Fire Department, receiving keys to the streamlined emergency unit from Fred J. Barr, Jr., representing the donor, Grand Rapids Motor Coach Co., while Fred DeVries, President of the 321 Association, looks on. Right: Fireman Wallace M. Imhoff, who directed interior work on coach, samples coffee as Jack Nederweld, Chairman of 321 Association's coach committee, draws one.

9:52 P.M. Signal 4-4—394 Eng. 3, 11, 7, 27, 9; To change location: 40-3, 213-11, 209-7, 256-9.

9:55 P.M. Signal 5-5—394, Eng. 1, 12, 15, 65, 8; To change location: 54-1, 205-12, 56-65, 53-8.

9:58 P.M. Signal 12-394-2- Fire patrol.

9:59 P.M. Signal 9-394-1 Fire patrol.

10:03 P.M. Signal 8-394-150 Increase h.p. system.

10:13 P.M. Signal 12-394-3-3 Fire patrol.

10:04 P.M. Signal 8-394-175 Increase h.p. system.

10:15 P.M. Signal 12-394-9 Fire patrol.

10:28 P.M. Signal 9-394-22 Search light.

10:53 P.M. Signal 12-394-3-3 Fire patrol.

2:23 A.M. Signal 12-394-2-2 Fire patrol.

Columbia U. to Study Flame-Proofing

A five-year project in the flame-proofing of fabrics will get underway soon in the chemical engineering laboratories of Columbia University.

The project, which will be jointly sponsored by the Quartermaster Corps of the Army and the Office of Naval Research, will be directed by Dr. James M. Church, associate professor of chemical engineering. Both the Army and the Navy are concerned about the danger of unprecedented casualties from fire in the event of atomic warfare, according to Professor Church. They hope also that the Columbia studies will lead to new and more effective methods of flame-proofing clothing for military purposes, he said.

Columbia's Department of Chemical Engineering has already made important contributions to existing knowledge of flame-proofing as applied to the treatment of fabrics. In 1943, following the North African campaign, in which forty per cent of all U. S. casualties were from burns, the Quartermaster Corps asked Columbia to study the problem of flame-proofing army clothing. For more than two years, a dozen scientists made exhaustive tests with various types of military fabrics. The results of these and tests at other service laboratories enabled the Army and Navy to make improvements in the treatment of fabrics used for clothing.

The new project will go "far beyond" the 1943-1945 study, according to Professor Church. It is planned to incorporate various flame-proofing agents into nylon and other fabrics, instead of treating the fabrics externally. Viewed from a long-range point of view, such methods would mean changing present production techniques if adopted generally by the textile industry, the Columbia scientist said.

Oldest "Living" Fire?

According to *Colliers* (Dec. 6, 1946), America's most famous burning coal mine is at Summit Hill, Pennsylvania. Defying the numerous attempts that have been made to extinguish it, this fire has burned continuously for the past 115 years.

Santa and the Fire Service

Each year it appears as though the nation's fire service enters into the Yuletide holiday spirit on a greater scale. This activity is not limited to within the fire service itself, but embraces the public, young and old. All of which augurs well for improved fire service public relations.

Lack of space prevents publication of even a small segment of the many and varied Holiday activities of city, town, village and rural fire departments. There is room here for only one or two selections from the many accounts sent us.

Christmas Tree Conflagration Ends a Holiday Menace

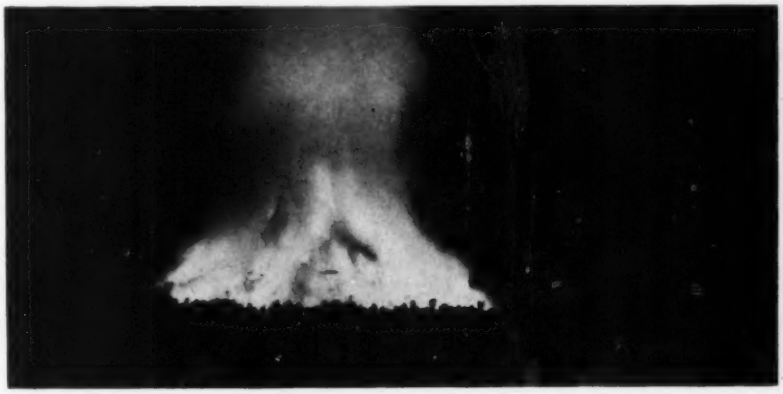
Just who first conceived the idea of holding a public post-Christmas tree bonfire is unknown, but the idea is praiseworthy and might well be followed nationally.

Minneapolis is one of the larger cities that stages this communal celebration in the name of safety. January 8th was the date set for the last affair, which, as the illustration shows, was well attended.

To give the "safety conflagration" added color, the Civic & Commerce Association; the Aquatennial Association and the Saint Paul Winter Carnival Association all took a cooperative part. This year the Saint Paul Winter Carnival group, including Vulcan, the king, and his cohorts, "sneaked" over to Minneapolis and set fire to the small mountain of trees. Incidentally, this celebration provides another means of bringing together citizens of the adjoining rival municipalities.

St. Louis Park, Minn., Stages Tenth Annual Santa Claus Tour

The little village of St. Louis Park, not far from Minneapolis, last Christmas carried out its Tenth Annual Santa Claus Tour—that is, the local fire de-



Civic Fire Ends Holiday Season

Some hundred thousand Christmas trees go up in smoke in Minneapolis, Minn., as an estimated 5,000 persons watch. The fire is set as part of an annual celebration. Discarded trees are collected after the first of the year and piled up by derrick to provide fuel for the blaze.

St. Louis Park, Minn., Fire Truck Plays Santa Claus

partment under Chief C. M. Williams did so.

Each year, the firemen decorate one of their trucks with Christmas tree and lights, equip it with a public address system and lighting plant and send it throughout the community, playing Christmas carols. The truck is loaded with gifts further to emphasize the Holiday spirit.

The decorated apparatus is manned by firemen who donate their off-time to driving it and playing Santa Claus. The department starts its observances about the 15th of December and continues through Christmas Eve. Last year the "Santa Claus Tour" covered over 200 miles, with stops at over 900 homes.

Writes Donald E. Glossing, secretary of the Fire Department: "we feel that if other departments read this, and would start something on this order in their own communities, it would make Christmas more enjoyable for them and the children. We have received many compliments and believe they would too, for this small service.

San Francisco Firehouse Contest Outstanding

San Francisco's fire stations were transferred into Yule scenes during the holidays in a competition that gave the city its best Christmas show. It is doubtful if any one large city ever before staged such a contest on such a grand scale.

Early in December the officers and members of the San Francisco Fire Department, Edward P. Walsh, Chief, were notified of the competitive holiday outdoor decoration of firehouses sponsored by Mayor Elmer E. Robinson, President Max Sobel and Commissioners Walter A. Leonetti and Robert H. Schaefer of the Fire Commission and Chief of Department Walsh.

All firehouses were invited to compete for the prizes aggregating $2,550.00. The awards were made by a group of represented citizens chosen from leading civic and other organizations.

The rules required that all decorative work be performed by regular members of the department; the cash outlay for decorating any house could not exceed $50; only decorations on the front of each fire station were subject to competition; decorations had to be completed and installed by Dec. 10th 1948; awards were made on the basis of artistic effect and originality of design. Finally, the decorations could not obstruct the movements of apparatus, nor could circuits be overloaded or department property defaced.

Engine Company 28 won first prize. Its house at 1814 Stockton St., was elaborately transformed into a huge double fireplace, with two giant Christmas stockings hanging from the mantel which was decked with Christmas trees, candles and capering figures, to win the $1,000 top award.

Second prize of $750 went to Engine 35 at 36 Bluxome st. and third prize was won by Engine 10 at 3050 17th st. Other prizes of $50 each were awarded to engine 47, 499 41st st. fourth; Ladder 5, at 2136 Geary st. fifth; Engine 17, 416 Jessie st., sixth; Engine 15, 2150 California st., seventh, and Engine 37, 2501 25th st. eighth.

Recommended for recognition, which netted them also $5 each were Ladder 11, 315 Duncan st.; Engine 11, 1632 Oakdale ave.; Ladder 12, 1757 Waller st.; Engine 21, 1152 Oak st., and Engine 32, 194 Park st.

Plastic Tree Lights Held a Fire Hazard

Certain plastic Christmas tree lights were held a fire hazard and ordered removed from counters of Waterbury, Conn., retail stores by Fire Marshal Eugene A. Legge of the Waterbury Fire Department in December last it is disclosed. The National Board of Fire Underwriters sustained the Waterbury action, in a letter to Chief Legge from the Committee on Fire Prevention and Engineering Standards, research division of the NBFU.

This communication says in part:

"Upon our investigation, we find that

Below: Members of Engine 28 and Tank Wagon 1, winners of the first prize, appear on apparatus. In front of apparatus, left to right, Battalion Chief Mervyn Coghlan, Fire Commissioner Walter Leonetti, Driver Carl Bergmark, Captain Vernon Cody receiving check in the amount of $1,000 from President Sobel of the Fire Commission, Chief of Department Edward P. Walsh and Fire Commissioner Robert H. Schaefer.

Top right: Engine Company 35, Truck Company 8, joint winners of the second prize of $750.00 at San Francisco.

Bottom right: Engine Company 10, Truck Company 7, Tank Wagon 11 and Hose Tender 6, joint winners of third prize in San Francisco contest.

The 5 COMMANDMENTS OF FIRE PREVENTION
1 Don't Smoke in Same Room with Tree
2 Don't Trim Tree While Lights are on
3 Use only Flameproofed Trimmings
4 Use Only Approved Electric Cords
5 Don't Allow Accumulation of Paper
The MASSILLON FIRE Dept.

Float Used in Masillon, Ohio, Merchants' Holiday Parade

Dramatic fire prevention message, created by Massillon Fire Department at the request of Chamber of Commerce for its holiday parade, was outstanding in the parade of 22 floats and 15 bands. The department's division included an old 1880 steamer, belching smoke; chief's car; Ford truck with this "burning lesson"; and pumper and aerial truck. After the parade, the "house" was located atop a bus station in City Hall Park for balance of the holiday season.

the Glolite product (the name of the make of the so-called combustible ornament) is also being sold in this area (New York), and we are advising Deputy Chief David J. Kidney of the Bureau of Combustibles and Fire Prevention of the New York Fire Department about his (Legge's) experiences with this type of ornamentation.

"From the sample that has been purchased in a nearby store by one of our research engineers, we note that the plastic is tightly cast around the base of the miniature bulb. There also seems to be a protrusion inside the body of the ornament (shape of a canary bird) which appears to be in more or less direct contact with the top surface and the hottest part of the bulb. The make and wattage does not appear—the only marking indicated is 'U. S. A.' The standard Christmas tree light consumes about 7½-watts; even though this lamp is smaller it is believed that sufficient heat developed at the base and other points of intimate contact might cause combustion when the lights are operated for a prolonged period of time. A simple match test indicates that this plastic product ignites readily with a smoky flame and an increased burning rate as the fire progresses. The material also softens and is accompanied by flaming drippings.

"We do not have any specific information on the composition or the fire characteristics of the above lamp product other than that determined by cursory examination reported above. Before pursuing the matter further, we would like to obtain more specific details on the complaints from certain purchasers in Fire Marshal Legge's community. In the meantime, we feel that steps taken by this office will place the burden of proof where it belongs upon the manufacturer and the distributor."

Following the action by fire marshal in January, a representative of the Society of Plastics Industries, Inc., New York City, conferred with Marshal Legge and told the latter that the Waterbury incident had been followed by similar ones all over the United States and had occasioned nation-wide publicity.

Mr. Langdon P. Williams, director of public relations for the Society, declared that plants which are members of the Society, manufacture plastics which do not burn.

Marshal Legge's action was precipitated after several buyers of the hazardous ornaments in question had complained that the decorations had smoked and burned while in use.

Fire Destroys Large Church

St. Patrick's Church, huge brownstone structure at Pearl and High Streets, Thompsonville, Conn., erected in 1889, was destroyed by fire on December 5 with an estimated loss of $500,000. The fire is believed to have started when a candle overturned near a shrine inside the front vestibule.

Responding to an alarm from Box 151 at Fire Headquarters on Pearl Street, Fire Chief Thomas J. Furey found the fire had gained such headway that it was impossible to enter the structure due to great volumes of smoke.

Chief Furey immediately summoned help from neighboring departments and four pieces of apparatus were sent from Springfield, Mass. Other apparatus responded from North Thompsonville, Hazardville, Enfield and Bradley Field Airport at Windsor Locks.

The Springfield equipment included an aerial truck, hose wagon, squad wagon and pumper, all in charge of Chief Thomas J. Wrenn. More than 15 pieces of apparatus were stationed about the church at the height of the fire.

An unidentified woman rushed to St. Patrick's rectory, near the church, and gave the first word of the fire. The pastor, the Rev. William P. Kilcoyne, and his assistant, the Rev. John J. Graham, ran to the church and saved the sacred vessels in the sacristy at the front of the church. Father Graham is a former Chaplain of the Danbury, Conn., Fire Department.

All that remained after the fire ended were the brownstone walls. Father Kilcoyne said the replacement value of the church would be in excess of $400,000, and that there was partial insurance on the structure. Loss of contents will push the damage higher.

Destroyed in the fire were the numerous stained glass windows, which were imported from Germany. All were memorials. The three marble altars, which also were ruined, were memorials as were also the Stations of the Cross.

Although heavy volumes of smoke poured from windows and doors of the church, the first outbreak of flames came about an hour after the fire was discovered. These flames blazed near the cross at the High Street entrance of the church.

Shortly afterwards the first sections of the roof above the front entrance be-

St. Patrick's Church, Thompsonville, Conn., at Height of Fire

gan to cave in. Before the fire was controlled the entire roof tumbled down.

Originally the basement of the church was used for services. The superstructure was dedicated in 1904 and the cornerstone for the upper part of the edifice had been laid in 1889.

TOM MAGNER

I. A. F. C. Directors Meet

Greater cooperation between its own divisional groups, and between the parent association and other business and civic organizations in and affiliated with the fire service was the keynote of the three-day Board of Directors meeting of the International Association of Fire Chiefs, held in New York City, February 1 to 3, 1949.

The Board meetings at the Hotel Statler were well attended by representatives of the National Board of Fire Underwriters, International Association of Fire Fighters, National Fire Protection Association and other groups as well as prominent chiefs and fire protection engineers. Chief Henry R. Chase, of Miami, president of the I. A. F. C., presided together with Chief William Cawker of Topeka, First Vice-President. Other officers present included Second Vice-President Chief John Alderson of Los Angeles; former Chief Daniel B. Tierney of Arlington, Mass., Secretary-Treasurer; Jay W. Stevens of San Francisco, Executive Secretary; Fred Shepperd, Editor of FIRE ENGINEERING, Technical Advisor; and James E. Jagger, General Manager of the Association.

Among the matters reviewed by the Board were:

Establishment of a more active publicity drive for new members and to bring the Association and its objectives into greater prominence.

Improved contacts with government agencies and civic and other associations related to the fire service as well as with apparatus and equipment manufacturers. Closer working conditions between association headquarters and its regional and divisional organizations.

Continuance of the policy of disseminating to its members helpful information on fire protection and prevention.

Participation in programs having for their object the elimination of smoking in bed; reduction in the careless use of matches; adoption of non-flammable finishes for bowling alleys; elimination of sub-standard Christmas tree lamps and other ornamentation and broader training in first aid.

The Association will work with the National Board of Fire Underwriters and other groups on periodic revisions of the standard fire apparatus specifications and classification of characteristics of fire extinguishers, originally developed by the Association some years ago.

The Board accepted the report of its delegates to the Training and Joint Evolutions Committees of the Fire Department Instructors Conference—Fire Chief Robert Bogan, Baton Rouge; Assistant Chief F. B. Lucas, Davton, Ohio, and Roi B. Woolley, Larchmont, New York. It also approved the new pictorial Manual of Ground Ladder Evolutions, the first of several operational texts in preparation cooperatively by the I.A.F.C., F.D.I.C. and N.F.P.A., as previously disclosed in FIRE ENGINEERING.

Chief Chase announced the appointment of several committees, including that on Communications, Chief William Cawker, Chairman, and one on cooperation with other agencies, members of which will be announced later.

Reports of progress were received on a number of other subjects, including arson by Fire Marshal George Clough, Nassau County, N. Y.; Civil Defense by Mathew M. Braidech, N.B.F.U., Technical Advisor and Chief Carl Dreesen on the O.C.D.P. program; Fire Department Communications by Chief Roi B. Woolley; Collecting Fire Loss Data by Lewis A. Vincent, N.B.F.U.; the Hazards of Self-Service Gasoline Stations by Harry Newell, N.B.F.U., and Sustaining Manufacturer Cooperation by Fred Philbrick, President, The Gamewell Co.

Reports of the Budget and Auditing Committees and General Manager all show an increase in membership and revenues.

The Board approved the dates suggested by Chief Howard Dey of the New Orleans Fire Department for the 76th Annual Convention of the Association in his city, which will be September 26 to 29 inclusive. Chief Dey assured the Association satisfactory hotel accommodations, exhibit space and entertainment.

Hazard of Burned Out Fluorescent Lamps

The disposal of burned out fluorescent lamps presents a serious health hazard of which few persons are aware and about which little is understood at this time.

The hazard, it appears, is present in two ways, namely (1) by inhaling the dust from the coating on the inside surface of the glass tube, and (2) by the introduction of this material into the skin through open sores or as a result of lacerations caused by broken fragments of the coated glass. This coating, known as a "phosphor," contains beryillium, which is a predominant cause of the poisoning.

The hazard is recognized by the lamp manufacturers who are taking steps to overcome it.

In order to understand the hazard, reference may be made to the minutes of the April 2, 1948 meeting of the Medical Advisory Committee on Beryllium which mentions that "if particles of broken glass carrying phosphor powders get under the skin during the breaking of lamps, the phosphor will delay the healing of wounds and lead to chronic inflammation."

The hazards of beryllium were also discussed at a recent meeting of the American Association of Industrial Physicians and Surgeons held at the Massachusetts General Hospital in Boston, where it was said that if phosphor-containing beryllium comes into contact with open lesions of the skin, it enters the tissues and begins to cause a tumor-like growth and degeneration. In fact, pieces of glass which enter tissues have been known to cause long-standing draining tumor masses which necessitate the removal of large areas of skin, muscle and bone.

The inhalation of beryllium compounds in powdered form has caused illness, and even death. In order to guard against the hazards presented in the routine disposal of burned-out fluorescent lamps, the following rules should be followed:

1) Never discard burned-out fluorescent lamps by placing them with rubbish or refuse (persons may pick them up and accidentally break them.) Never destroy them by placing them in incinerators.

2) Smash all lamps before disposing of them, and keep the broken glass wet or covered with water in the disposal receptacle.

3) Where there is only an occasional lamp to be destroyed, place it in the sleeve or carton from which the new lamp has been removed, take it out-of-doors, and then smash it. Wear gloves and goggles during this operation.

4) Where larger quantities of lamps are to be destroyed, a smashing device should be installed. Such a device, preferably located out-of-doors, should be so designed as to confine the dust and broken glass and to deposit them in water in the disposal receptacle. Gloves and goggles should be worn during the smashing operation.

5) When emptying the rubbish can, always stand on the windward side of the can, even though the broken glass is wet.

W. E. ROSSNAGEL, Safety Engineer

Wilbur E. Mallalieu Honored by Fire Chiefs

Mr. Wilbur E. Mallalieu, general manager of the National Board of Fire Underwriters, was honored by the International Association of Fire Chiefs, at a ceremony held during the meeting of the Association's Board of Directors in New York City on February 2.

W. E. Mallalieu being presented with Honorary Life Membership Certificate by Chief Henry R. Chase, President of the I. A. F. C.

The fire chiefs cited Mr. Mallalieu for conspicuous service in the Association's drive to promote reduction of loss of life and property from fire, improve fire-fighting methods and advance the fire service and its value to the public welfare.

Chief Henry Chase, of the Miami, Florida, Fire Department, president of the International Association of Fire Chiefs, presented Mr. Mallalieu the membership scroll at a luncheon in the Drug & Chemical Club, New York City, which was attended by the entire Board of the Association, and a number of distinguished guests from United States and Canada.

Utility Tests Water-Fog

Fire officials, utility executives, insurance men, manufacturers' representatives and others witnessed tests of one of the latest and largest installations of water fog protection against transformer fires in December, at the Riverside Substation of the Blackstone Valley Gas and Electric Company. The installation is designed to afford the Woonsocket, R. I., area additional protection against power failures due to fire.

Tests of the new fire protection system were witnessed by Fire Chief A. J. Cote, Assistant Chief Leo J. Roy and Deputy Chief Esdras Desaulniers of Woonsocket, Supt. Frank A. Pooley of the Woonsocket Water Department, BVG & E officials, representatives of the New England and Fire Insurance Rating Association and Payton R. Williamson, construction superintendent and Rudolph E. Peterson, construction foreman of the Rockwood Sprinkler Company, Worcester, Mass.

The fog system produces a fine fog of thick pattern from large numbers of spray nozzles surrounding the huge transformers, somewhat similar to the sprinkler systems used in plant protection. The fog pattern is designed to blanket the transformers and smother the fire while cooling the metal of the units and protecting the surrounding exposures against fire extension.

In this particular installation, each of the three big transformers contains many barrels of oil to insulate and cool the windings. Fire, occurring from whatever cause in the coils of the transformer could create a long interruption of service to the Woonsocket area, it is said. These intricate transformers step down the electric supply as received from three 115,000-volt transmission circuits, to 13,800 volts for distribution to various substations around the city. This voltage is further reduced for transmission around the streets and stepped down again before it used for it is used for house current.

Water for supplying the water fog system is provided by a special 8-in. water main laid under the Blackstone River to the Riverside plant. The system requires a total flow of 1,200 G.P.M.

The installation is part of the company's new fire protection program for safeguarding the utility's entire transmission network at Pawtucket, Fall River, Brockton and the main generating plant at Somerset, Mass.

New Water Tank Truck of the Longwood Fire Company

Chester County Communities Cooperate to Get Water to Fire

About thirty miles south of Philadelphia in Chester County, on Route 1, is Longwood Farms, Inc., one of the largest flower gardens and conservatories in the area. Two and one-half miles to the east is the Borough of Kennett Square, also on Route 1 in the same county. Both communities are fire conscious; both have volunteer fire companies and both have faced the same problem of how to get water on a fire when there are no hydrants, and little static supply available.

The Longwood Fire Company has a 500 GPM triple combination pumper with 200 gallon booster tank. The Kennett Fire Company No. 1 also has a 500 triple combination GPM pumper with 200 gallon booster tank. There is also a triple combination pumper of 1,000 gallons capacity with a 100 gallon booster tank. The latter does not go outside the Borough limits to fight fires.

Volunteers of these two communities found upon occasion that their booster tank capacity was too limited to control fires which had any headway and so they set about securing a "traveling reservoir" that would augment their booster supplies and enable them to knock down almost any fire in an average dwelling or farm property.

The cooperation of citizens in the area around Kennett Square and Longwood was enlisted to help finance the desired water carrier. It was not intended that the truck would be a primary fire fighting unit, but an auxiliary to supply other units.

The chassis of the new unit is of 140 h.p., and upon it is mounted a 1200-gallon water tank, the latter so made that it can be filled from three different sources; either by pumping water with a 200-gallon pump mounted on the apparatus; by filling through the top vent, by means of a hose or can, and through a 2½-in. valve which can be hooked up with a hose to any fire hydrant.

The apparatus is also equipped with a portable pump, and 200-ft. of ¾-in. booster hose and necessary suction hose. The tank may be filled by using a 1½-inch hose from the small pump.

The tank was built by a nearby builder, painted by two men who donated their time, and the lettering also was done by a public spirited contributor. The truck, loaded, weighs 20,150 lbs.

Two committees, one representing each community department, were responsible for choosing and helping design the equipment. They included Louis Jacoby, Longwood Fire Chief, and Joseph Stabler, Kennett Square Fire Chief. Aiding were numerous present and former officers of both departments. The total cost of the entire job was $6,500.

This latest acquisition enables these two companies and those of nearby Avondale and West Grove in Pennsylvania to mobilize a striking force of three tank trucks and five pumpers with a total mobile water supply of 3,200 gallons. All of which, when the doughty volunteers swing into action, should promise prompt control of almost any fire.

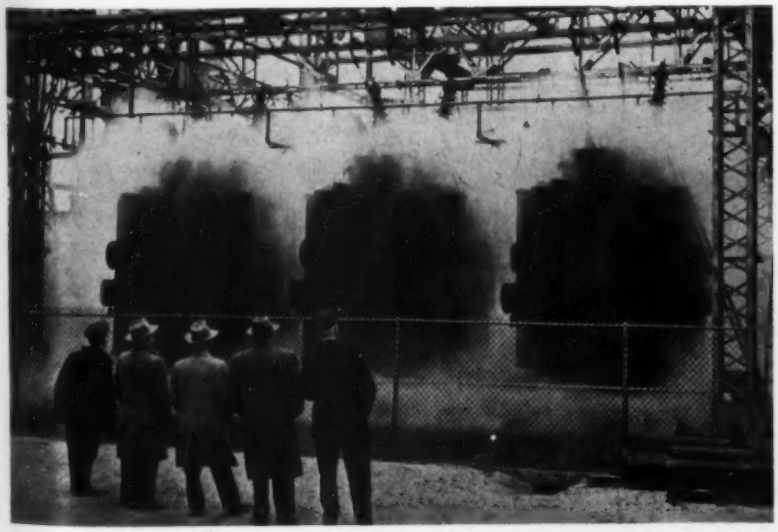


Photo Courtesy Andy Palmer

Water Fog Smothers Simulated Transformer Fire in Woonsocket

Fire Chief A. J. Cote, and other officers of the Woonsocket Fire Department, join with utility, insurance and manufacturers' representatives to watch tests of latest in built-in water fog protection at Riverside Substation, Blackstone Valley Gas & Electric Co.

Fire Chief Designs Novel High Pressure Unit

By CHIEF R. A. McKINNEY,
Indianapolis, Ind.

I have been working on this high pressure engine for 20 years and it is the only one of this kind in the country. It is to be used for fires of magnitude. I have completed and perfected the distributing tank; the construction of this tank can handle 3 large deck nozzles with the capacity of 600 gallons each per minute, or with 2" tip, 1189 gallons per minute on the tripod nozzle. The two lower nozzles are to be used for 1st and 2nd floors, and the tripod nozzle for 3rd and 4th floors. We also can run from this apparatus 14-2½" lines and when clean-up work is to be done, we can make up 28-1½" lines. When extra companies are called to the scene of fire, most plugs near by will be in use; one extra company can connect line on outlets from the distributing tank, or when fires are under control, lines lying in streets can be disconnected from plugs or engine and then connected to high pressure engine near fire and all lines on streets can be removed to open traffic. Also, if extra companies are called and plugs near fire are in use, the extra companies can lay out from the distribution tank on the high pressure engine.

This apparatus has master valves for each deck nozzle; one or two can be shut off without interfering with anything else connected to the distributing tank.

This apparatus has the same working system as a Fire Boat—the kind in service at many of our lake and coast regions.

One of the old Stutz, 600 gallon capacity, discarded pumping engines was set aside to be used for the making up of this unit. After it was definitely decided on just how this apparatus was to be built, the hose body and other unnecessary parts were removed and the chassis frame was lengthened 36 inches. A specially designed, high pressure tank was built of ¼-inch boiler plate and all edges bound with ¼x1½-inch angle iron; stay-bolts were inserted inside the tank. The tank under test was required to withstand a static pressure of 300 pounds.

The tank was provided with a baffle plate set lengthwise, with openings large enough for air passages to the upper part of the tank. Nine 2½" clapper valve type inlets were provided and set below the bottom level of the baffle plate; 2½-inch discharge gate valves were also provided and set below the lower level of the baffle plate. The discharge tube is of 4-inch galvanized pipe and is set in the top and center of the tank and extends through the tank and baffle plate to within 5 inches of the bottom; this leaves the upper part of the tank an air chamber which provides a cushion or shock absorber when valves are suddenly closed. The tank measurements are 33 inches wide, 20 inches deep and 53 inches long, with a 1-inch drain valve in the bottom. The tank is hung on the bottom side of the chassis frame; the frame, as stated above, was extended 36 inches over its original length to make room for the tank.

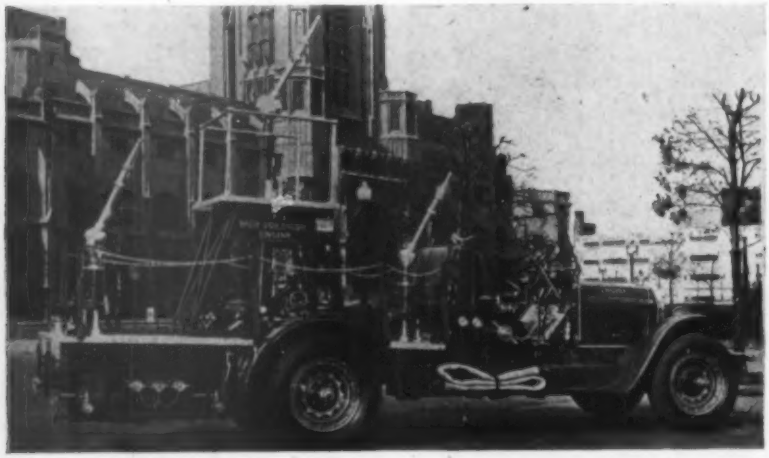
The 4-inch discharge tube out of the tank was run between the chassis frame with suitable elbows and tees to take three turrets; each turret is provided with a 4-inch hand wheel type gate valve, which will permit the operation of one or all of the turrets. The center turret has been elevated 11 feet above street level with a sort of a "crows nest" built for the men to operate the nozzles. A platform body with hand rails was provided for easy operation in all directions.

The turret nozzles used have been in the Fire Department possibly 45 years. To make them suitable for the service, it was necessary to completely rebuild them. Special castings were necessary to attach them to the 4-inch pipe. All threads were changed to conform to National Standard, and special castings were required to attach the clapper valves to the distributing tank. By changing the threads to the National Standard, it is possible to remove the play pipe tips and attach the 2½-inch lines for hand lines if needed.

Each turret is equipped with four nozzle tips to the sizes of 1¼-inch, 1½-inch, 1¾-inch and 2-inch. Equipment consists of 4 2½-inch siamese to make a single line into two lines. Two each, double female and double male couplings to attach lines regardless of direction they may be laid. One hose clamp, spanner wrenches, gaskets, etc.

All engine hose lines are attached to the inlets of the water tank, which acts as a distributor for the three turrets, and all pressures at the various nozzle tips are approximately the same. All turrets being separately controlled makes it possible by closing the valves to change tip sizes, attach hand lines or reduce pressure, where hand lines are being used, without the need of sending word back to the engine. The tank is also equipped with four discharge gate valves for attaching hand lines if needed.

In districts where traffic is very heavy and fire lines are laid that would block traffic, after the fire has been brought under control, hose lines can be taken up and attached to the turret pipes or the discharge gate valves on the tank, and water supplied with the pumping engine that is a part of the high pressure setup.



Novel High Pressure Unit Recently Placed in Service at Indianapolis, Ind.

New Edition of N.B.F.U. Code

Recognizing many new advances in building practice, the 1949 edition of the National Building Code recommended by the National Board of Fire Underwriters has just come from the press, it is announced by W. E. Mallalieu, general manager of the National Board. It will be distributed to municipalities, building officials, schools, colleges, libraries, and to members of the building profession.

The first edition of the National Board's Building Code appeared in 1905, and revisions have been made in it every few years to keep it abreast of new conditions. This 1949 edition is the sixth revision of the code. Prior to 1928, it was the only national model code in existence and practically every good-sized municipality in every State in the Union used early editions of this code in the framing or revision of their building regulations. Many cities adopted one or another edition of the code in its entirety.

"The 1949 National Building Code is a composite of the views and experiences of building officials, the building industry, and the fire protection engineers," Mr. Mallalieu said. "It is a practical approach to the building code problem because it will encourage a large amount of standardization; approved American standards and nationally recognized standards of trade associations have been widely used in the code."

The Queer Behavior of Carbon Tet' on Plastic

Recently, during an inspection of a New York State industrial plant by a safety engineer, a C. T. fire extinguisher was being filled by means of a plastic funnel.

During the operation, the inspector noted that the fluid became discolored and the plastic became tacky, which led him to the belief that this breakdown of the plastic substance of which the funnel was made could well leave a deposit or otherwise affect the extinguisher so as to impair its usefulness.

The inspector has passed along his findings to his fellow safety workers and is advising against the use of plastic funnels for filling C. T. extinguishers in the future.

(*Continued on page* 149)

The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

Fire at Firemen's Fete

It shouldn't happen to the fire commissioner—certainly not at a dinner honoring him!

It was this way: Not so long ago, New York City fire chiefs staged a dinner at a midtown restaurant to fete Fire Commissioner Frank J. Quayle.

Not even a whiff of smoke warned the assembled fire fighters that downstairs a short circuit had set a bit of the ceiling a-smoldering.

Upstairs, someone whispered the news to William Taubert, Deputy Chief of Staff and Operations, and "Big Bill" quietly summoned fire companies without telling his fellow diners.

By the time the units had arrived, and the diners knew anything about it, restaurant employes had extinguished the blaze,—not perhaps without a bit of direction by "Big Bill."

Said the wayward press, in reporting the incident: "and Commissioner Quayle re-packed a new fire helmet, boots and raincoat that had just been presented to him."

* * *

Fire Sweeps Spencerport Fire House

Fire on the morning of Dec. 17 last, burned out the Spencerport, Monroe County, N. Y., fire house, causing damage estimated at $75,000.

Three firemen were injured in fighting the blaze, which was discovered by a woman residing across the street from the station. The fire put the department's siren out of commission and the volunteers were aroused by Police Chief Charles Ballard who cruised the streets sounding his car siren.

Firemen from four companies fought the fire. Monroe County is home of the Monroe County mutual aid system.

The burned building housed village offices on the second floor, and local village records were reported saved from the structure, although damaged by smoke and water.

* * *

"Spark Off the Old Block"

Hoseman Robert Regan, Engine 43, Dorchester (Boston Fire Department), has an 11-year-old son, Robert, Jr., whom he declares proudly is a "Spark off the old block."

Seems that Hoseman Regan had just reported for afternoon duty at the fire station when he was brought up short by a radio message of a fire at 57 Hecla Street.

"Why that's my home!" he shouted, and the 32-year-old fireman was first man into his "turnout" as the truck rolled in answer to the alarm. When the apparatus arrived at the foot of Hecla Street, to connect to the hydrant, Regan sprinted a 100 yards in nothing flat to his home.

There he found young Robert in the role of hero. The boy had rescued his four-month-old sister Carolyn from the burning three-story frame building, then had returned to the third floor to telephone the fire department.

Occupants of the second and first floors were forced to flee with the Regans. The fire caused damage estimated at $5500. Hoseman Regan suffered a severe cut on his hand while fighting the blaze and later went to Boston City Hospital for medical attention.

RAYMOND LEE

* * *

Pittston Puzzles Problem of Purloined Fire Escapes

They're in a bit of a pother in Pittston, Pa., press reports say, over the fire escapes that played hookey from the two-story Barry Public School in Pittston Township.

There, Police Chief Frank Swift sought to determine what happened to all the escapes, measuring 60 feet in length and weighing hundreds of pounds.

Residents in the school's neighborhood say the fire escapes "were there three weeks ago and the children were using them." But a State Inspector is quoted as saying, "I made an inspection last week and there weren't any fire escapes." The law says there must be fire escapes. Township Supervisor James Murphy adds his bit and says: "It's got me. It certainly would take a big truck to move 'em away. Strange nobody saw 'em go."

Members of the School Board expressed similar views, one of them saying, "Come to think of it, I don't recall ever seeing any fire escapes." However, Inspector John McGuire concludes: (1) the fire escapes are missing and (2) something's gotta be done about it.

One member of the School Board says he noted the escapes were not in place late in 1946 when he made his first inspection tour after election. At that time, he said, "he had a carpenter seal up two doors that opened into space."

Meanwhile, until the old escapes can be found, or new ones erected according to law, it looks like the second floor of the school will have to be vacated.

IRVING JOHNSON

* * *

Hot Off the Ticker

In Vinton, Ia., a local garage man advertised a new solution that would fireproof automobile upholstery, etc. A week later the fire department was called to his house where the lads found the front seat cushion of his car ablaze. What's the old wheeze about "shoemakers' children?" (Thanks Bob LaGrange) . . . Georgetown, Colo., went through an anguished period late last year when all hands prayed fervently there wouldn't be a fire soon. Seems that thieves carried away the town's hook and ladder equipment. . . . In Brooklyn, N. Y., four boys confessed starting a two-alarm blaze in which eleven horses burned to death. . . . A street was "tarred and feathered!" Mrs. Anna Patssen of Park Ave., Weehawken, N. J., struck a match to light a fumer and the matchbox flared. The fire spread to a pillow, which she threw out of the window. The burning feathers were spread in all directions by the wind, most of 'em landing on newly tarred Park Ave. There you have it. . . . In White Plains, N. Y., they conduct a special school for police chiefs. One of the visiting bluecoats in a spirit of "good clean fun" pulled a fire alarm box on one of the main stems. Before he could say Jack Robinson firemen arrived and put the bite on him. Even visiting policemen sometimes misconstrue that "keys to the city" stuff. . . . A Hamburg, N. Y., rebuilt basket factory, ready to resume production after a $75,000 fire more than a year ago, was again destroyed by another blaze of undetermined origin. "Built to burn" is bad enough but "rebuilt to burn again" is inexcusable. . . . In North Adams, Mass., after firemen thought the last of eight families was safely out of a burning building they heard cries of "Firemen, save me." A spectator dashed into the burning structure to the rescue—and emerged a moment later carrying—a caged parrot! . . . In Newark, N. J., acting Captain Julian Jados was injured by a man he was trying to rescue from a burning house. Jados was helping raise a ladder to Henry Wooley, 50, in a third-floor window when Wooley toppled off and landed on Jados. Both were treated for cuts. . . . Mr. and Mrs. J. P. Cochran of Mineral Wells, Tex., were returning home when they smelled smoke. It was the carpet flooring in the back seat of their car, which had been set afire by sun's rays shining through a large water bottle on the floor. (To make the story good the fire should have burst the bot-

(*Continued on page 122*)

Just One Big Happy Family at Engine One, Erie, Pa.

Meet Butch and his loving bride, posed pridefully with their litter of thoroughbred Dalmatian puppies at the quarters of Engine 1, Erie, Pa. According to Fire Chief Lawrence P. Scully of the Erie Bureau of Fire, there were originally five offsprings, but one of them died, despite the strenuous efforts of twenty-four men, on two shifts to save the little fellow.

For many years Erie, Pa., fire houses were without mascots, but about five years ago the Headquarters station obtained a beautiful Dalmatian who now makes every run of the company, day and night. Other local fire companies are gradually acquiring similar mascots. It is reported that the ultimate destination of the four pups will be other Erie fire stations or the families of firemen who "midwifed" the pups way into the world. Final decision, however, rests with the men of Number 1.

The Erie Fire Department numbers 160 men, who, almost without exception, are boastfully proud of Butch and Bride and Family!

Short Cuts and Gadgets

UNIQUE PANEL BOARD USED BY SOUND BEACH DEPARTMENT

The Sound Beach, Conn., Fire Department is a unit of the Town of Greenwich Fire Department, of which Stewart Potter is Chief. Not many years ago the Sound Beach Organization was 100 per cent volunteer and known as one of the wealthiest, most progressive departments in the State of Connecticut. Although today it, and other units of the Greenwich Fire Department have a neucleus of paid firemen, the volunteers are still much in evidence.

All hands at Sound Beach are pretty proud of their equipment and their white frame fire station and meeting hall, bought by the organization's own efforts in years past, and one of the special show features is the transmitter-room at headquarters, shown in the accompanying illustration.

Prominent in this communication center is the "Panel Board," which is a sort of a "tell-tale" to keep members of the department posted on what's going on.

According to the creator of this Board, Fireman Frank L. Clark, who incidentally is one of the paid men of the organization, he got the idea of the device to provide the department better coverage in the fire station.

The Board tells what appparatus unit is out, and on what sort of a call. It calls attention to any special notices that may be posted on the blackboard (bulletin board) located in the transmitter room. All units of the department may be out of the station, but volunteers who report in can quickly learn what's going on—and where.

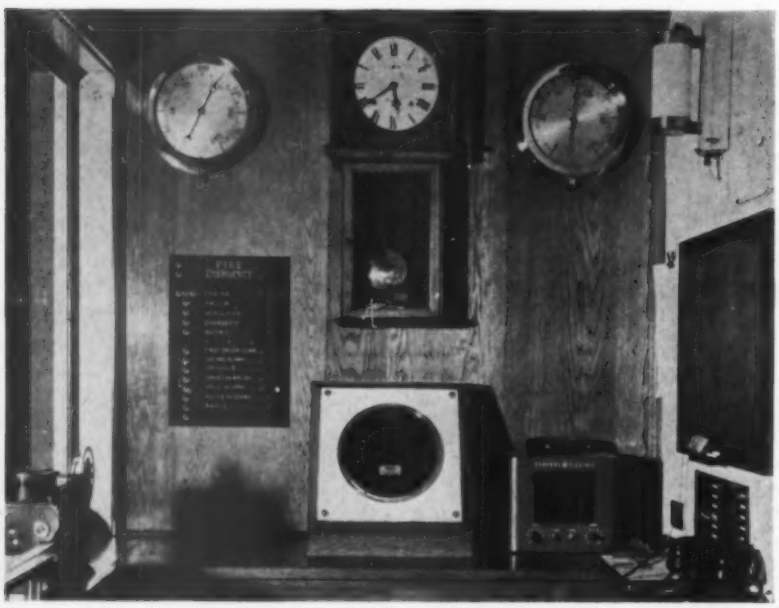
Thus, according to designer Clark, if there is an engine out on call, the driver switches on the light on the board to the number of the engine that is out and at the same time the signal "FIRE' on the Board switches on and lights up. The different department apparatus are all indicated by red lights. If, on the other hand, the ambulance, let's say, is out on an emergency call, the word "EMERGENCY" lights up in green. Notices such as "First Driver Cover," "Second Alarm," "Grass or Brush," etc., flash up in red lights. If it is necessary to call attention to special communications or information on the black board, the Panel says "NOTICE ON BOARD" in letters of fire.

The signals on the Panel Board are switched on by the officer in charge, or the company driver on watch, as the case may be. Radio is included on the Panel Board because the department has a short-wave radio hookup between the transmitter room receiver (shown in the photograph) and the company's new Cadillac ambulance as well as between it and Chief Potter's car. Radio is controlled through the Greenwich Police.

The Panel Board has been a big help to the department, it is claimed. It is a simple device, built entirely by Brother Clark on his spare time at a reported cost of $35. It is made out of a piece of aluminum, 13 in. x 18 in., anodized dipped, with black krinkle finish. It is wired for 110 volts and is connected on the alarm circuit in case city current should break down. The department has its own Gamewell battery set. The 110 volts are cut down by two small transformers to 6 volts. Half-inch holes are provided for single pole switches and dial lights wired on the back of the board. The Board was hand engraved to suit the number and kind of department units and coverage that was deemed necessary.

(Courtesy CLARENCE E. MEEK, Mack-International Motor Truck Corp.)

* * *

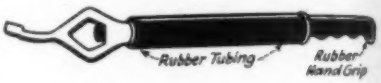


Transmitter Room of Sound Beach, Conn., Fire Department

The clock, upper center, automatically controls a test on the fire whistle at 8:00 A.M. and 8:00 P.M. daily; the gauge on the right gives the water pressure in the city mains; the gauge at the left indicates the air pressure in the tank that supplies the whistle; to the far left in the Gamewell time register, clock and ticker-tape; at left, under the gauge is shown the Panel Board described herein; below the clock is the Gamewell transmitter and to its right, the General Electric radio receiver; at the far right the bulletin or blackboard, and telephone for receiving alarms.

"STREAMLINING" THE HYDRANT WRENCH

Hydrant wrenches are more or less orthodox and have shown little noticeable change down the years. Now comes an idea from Captain Leo McCarthy of Orange, N. J., that should give new value to this necessary tool.



The Captain's idea is to fit the wrench shaft with a rubber casing or tubing, and the gripping end of the wrench itself, with a rubber hand-grip, about as shown in the accompanying illustration. In this picture, the Ludlow-Roper type wrench is shown, but the idea is applicable to all types.

The application permits of a better grip on the wrench and better insulation against cold and protection against any static condition in the area which might hinder a man while operating a hydrant. By reducing slippage, and resultant skinned knuckles, or worse injuries, this "short cut" should save on medical bills, and working hours lost to the department.

The cost is cheap, says the captain; bicycle hand grips can be secured for the grip-end of the wrench, and rubber tubing to fit over the wrench shaft is procurable at little or no cost. Glue, which is applied to make both covering and grip secure, is a negligible factor.

* * *

INEXPENSIVE CHAFING-BLOCK

There is seldom a working fire (or pumper evolution) at which some pump operator doesn't find need for a chafing block to safeguard suction or other hose.

Over the years, many ideas and products have been introduced to meet this need. Now comes a suggestion from Captain Leo J. McCarthy, Orange, N. J., for a chafing block which has the virtue of being easy and inexpensive to construct.

Captain McCarthy says all you need is a piece of tire cut twelve (12") inches long, and a piece of wood 3" x 3" by 10" long.

You simply place the block of wood on the inside of the tire and nail the latter to the wood. The part of the block that shows can be marked in prominent letters: "FIRE DEPT."

* * *

How long has it been since your men had first aid course? basic? advanced? refresher? Men come an' go along with ideas and methods of doin' things; it's a good plan to think of first aid not merely for the citizen an' the public—but the fireman—and yourself.

FALSE ALARMS

Typed

The visitor was trying to make friends with the young son of the house as he waited for the older sister to finish dressing.

"I think I have met all of your family except your Uncle Henry," he said. "How does he look—I mean which side of the house does he look like?"

The little boy considered. "I guess," he said finally, "the side with the bay window."

A group of Chicago truckers were showing the visiting Texas operator the town.

"What do you think of our stockyards?" they asked him.

"Oh, they're all right, but we have branding corrals in Texas that are bigger," he said.

That night they put some snapping turtles in his bed. When he turned back the covers, he asked what they were.

"Illinois bedbugs," they replied.

He peered at them a moment, "So they are," he agreed. "Younguns, ain't they?"

Pie-Eyed

A drunk staggered into an automat, put some nickels into a slot and watched in astonishment as out came a piece of cherry pie. He put in more nickels and out came another slice. He continued to feed in more nickels until he had almost a dozen pieces of pie. One of the attendants finally asked him, "Don't you think you had better stop now?"

"What?" cried the drunk. "Quit now, when I'm still winning?"

Retort

The great big beautiful car drew up to the curb where the cute little working girl was waiting for the bus. A gentleman stuck his neck out and said, "Hello, I'm driving west."

"How wonderful," said the girl, "bring me back an orange."

A motorist, on his way through Tennessee, had the opportunity to eat a meal with a mountaineer and his family. When he asked for cream in his coffee, he was told that they hadn't had any milk since their dog died last summer. The motorist was startled.

"A good dog," the mountaineer added. "He brought in the cows!"

Hat

A group of men were in the club just before dinner. The talk, for no good reason, turned to married life.

"Well," said one fellow, "the real comfort in life arrives when you've settled down with one woman you love. You can argue all you want, but it's my opinion that, once they've settled down, most men remain faithful."

Most of the men present agreed with him, but an older man in the group shook his head.

"I don't agree at all," he asserted. "And if you fellows are honest, you'll know I'm right. I'll bet any and all of you men a new hat that there isn't one of you who hasn't strayed from the straight and narrow since he's been married."

"I'll take that bet," cried out, swiftly.

"How long have you been married?" asked the cynic.

"Since last Saturday," was the reply.

The crowd roared, of course—and one of the listeners was so amused that he could hardly wait to get home to tell his wife about it.

At the end of the story he laughed and laughed. But his laughter died as he noticed a strange expression on his wife's face.

"What's the matter?" he asked. "Don't you think the story's funny?"

"Very funny," she replied, quietly. "But where is your new hat?"

Bob says while he thumbed through the ever-present Gideon Bible in a Chicago hotel room, he chanced to see in the front piece under the title, "Bible Helps" several suggested passages. One heading read "When Lonely or Fearful (see psalm 27, etc.)." Appended to this in pencil was a further suggestion, "If this doesn't help, call Wabash 4400 and ask for Mabel."

When a prominent woman was running for re-election to congress some time ago, her campaign took her into a rather low section of an industrial city. To be on the safe side, she had a sailor accompany her on her door-to-door rounds. At the first stop a little girl came to the door.

"Is your mother home, little girl?" inquired the Congresswoman.

"No she ain't," replied the youngster, "but she told me if a sailor came to the door with a woman, they could have the front room if they left two dollars on the mantel-piece.

Broken Appointment

The doctor rushed out of his study. "Get my kit at once!" he shouted.

"Why, dad," asked the daughter, "what's the matter?"

"Some fellow just phoned he can't live five minutes without me," gasped the doctor, reaching for his hat.

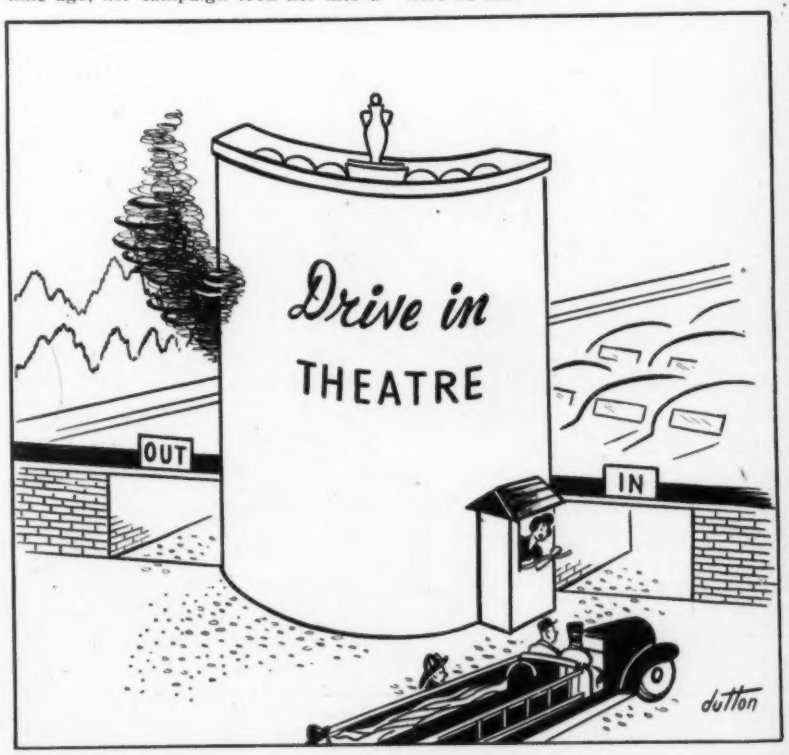
His daughter breathed a sigh of relief. "Just a moment," she said, quietly, "I think that call was for me."

Honey

A salesman taking his bride south on their honeymoon visited a hotel where he boasted of the fine honey served there.

Salesman (to colored waiter): "Sam, where's my honey?"

Negro (eyeing the woman cautiously): "Ah don't know, boss. She don't work here no mo'."



"How Many, Please?"

It's Here...

THE COMPLETE CARFONE . . . with self-contained power supply, single-unit control box and loud-speaker, and handy palm-type microphone. A super-flexible, easy-mounting antenna also is included.

LOOK HOW MANY WAYS THE CARFONE CAN BE INSTALLED

—on the side

—on the bottom, right side

—on the bottom, left side

the RCA Carfone*

152-174 Mc Mobile Communication Equipment

THIS IS IT—the newest and most revolutionary 2-way FM mobile radio in the field. It is designed to meet every communication need of the present. *And it's engineered to anticipate the requirements of the future!*

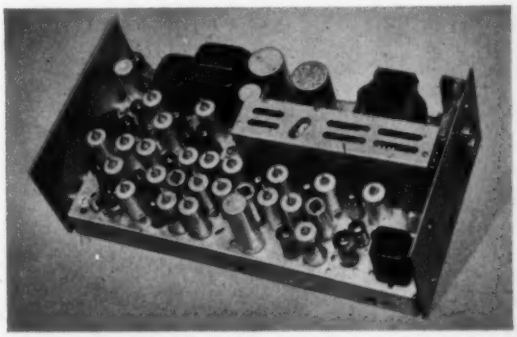
Unlike "warmed-up" versions of conventional 2-way radios, the RCA CARFONE is radically new from input to output.

• For example, the CARFONE has "31-Circuit" Selectivity. Here, 31 tuned circuits in the receiver introduce a new degree of selectivity that *makes reception on adjacent channels a practical reality* . . . enables CARFONE-equipped cars and trucks to operate over a greater geographical area *without interference.*

• For example, the CARFONE is designed with the Transducer Modulation Control . . . a new type of transmitter circuit that compensates for both loud and soft voices—*automatically.* This circuit advancement is simpler, adds no distortion, and keeps the CARFONE transmitter from interfering with adjacent channels—no matter how loud you shout into the microphone!

• For example, the All-New CARFONE combines a complete transmitter and receiver in one small compact unit (see opposite page) that provides the widest possible choice of installation locations in car or truck (see proof below).

For complete information *immediately* on the RCA CARFONE mail the coupon today.



Completely open, accessible construction puts every component and every connection "on top." In addition, the unit can be removed for service in thirty seconds.

*The RCA CARFONE is designed for every mobile radio application: police, fire departments, taxis, trucks, public utilities, buses, forestry, ambulances, pipe line services.

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Check these revolutionary All-New Features

NEW . . . Installation flexibility
NEW . . . "31-Circuit" Selectivity
NEW . . . Grounded-Grid Input for Higher Sensitivity
NEW . . . Low Spurious Response in the receiver
NEW . . . Low Spurious Emission from the Transmitter
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Clip and mail today!

Department 120B
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Camden, New Jersey
Gentlemen:
I want all the facts on the All-New RCA CARFONE.

Name_____
Address_____
Station_____ Title_____
City_____ State_____

Fire Fighting in Japan

(*Continued from page* 98)

seems to me, out of a town of 600,000 population quartered in the very inflammable buildings, only seventy-six buildings suffered damage from fire. In the recent earthquake in Fukui, Japan, virtually the whole city was burned.

To the Americans, every fire is a large fire, but to the Japanese it is just another fire. Little by little, through the continual pressing of fire education to the Japanese by the Occupation Forces, the Japanese have begun to appreciate and respect fire hazards and have established a fire fighting school at Tachikawa, under the direction of my former Japanese Fire Chief, Mr. Yajima. The ambition to correct their fire hazards is not lacking, nor is ambition lacking for better equipment, adoption of fire ordinances, learning the scientific approaches to fire hazards and fire fighting techniques. The progressive spirit is there, but it cannot be fully realized, with free trade and commerce with foreign countries still curtailed.

The hardships in the fire service in Japan were overshadowed in the tremendous scope of our mission; and I will not believe that the small guidance which has been given, and the guidance which the Supreme Command Allied Powers is giving, will be passed over without the utmost of gratitude from the Japanese people. The appreciation shown by the Japanese gave me the most satisfying experiences in my life.

MORE THAN JUST A BOOSTER PUMP

It's the Gorman-Rupp Dual Fire Fighter. Use it to fight fires direct -- use it where water supply is inaccessible to the truck pumper. It throws 100 gallons at 70 pounds pressure or 80 gallons at 80 pounds pressure. Primes in 15 to 30 seconds with a positive acting exhaust priming device. No adjustments between priming and pumping -- compact -- easily carried by two men.

Use it as a booster pump. Valuable for dewatering and many other important jobs -- wherever you desire to save wear and costly damage to expensive truck pumpers.

Write for Bulletin FD-3. Get complete information on Gorman-Rupp's Dual Fire Fighter. Learn how little it costs and why it's the easiest pump to maintain.

A few territories open to recognized fire equipment distributors.

THE GORMAN-RUPP COMPANY

305 BOWMAN STREET . MANSFIELD, OHIO

Watch Deck

(*Continued from page* 117)

tle and been extinguished by the resulting flood). . . . Glen Rock, N. J., vamps hopped aboard their ladder truck one night in answer to an alarm. A minute or so later the big machine sputtered to a halt. Out of gas! Oh well, it wasn't much of a fire anyway, said the local newspaper. . . . Judge W. C. Sheely of Gettysburg, Pa., sentenced Charles Ray Keller to two to four years in prison after the latter told the Adams County court he burned down his house "to get away from my wife." (Thanks Irving Johnson). . . . John Bodine 28, died in Trenton, N. J., as a result of a broken neck suffered in a 'friendly' wrestling match at a volunteer firemen's picnic. . . . Interest in a local Marquette, Mich., fire department vacancy skyrocketed when the Marquette Mining Journal mentioned this added incentive: **"Monthly cost of loving bonus of $32.50."** The Brother and the newspaper hastened to explain it was just a typographic error! (Thanks Raymond Lee). . . . in New York City, William Hill, 46, negro, decided to climb the IRT elevated in the Bronx. When police and firemen arrived he was gamboling amid the girders under the Freeman street station 50 feet above ground. Firemen spread a net and Hill jumped into it. He went to a hospital for observation. . . . In Los Angeles, during the gasoline shortage, Mr. and Mrs. Theodore Lukits decided they had a happy solution which was to store up the gas in their basement. The idea worked with a bang! While they were transferring the gasoline from gallon bottles to large containers, the vapors were ignited by a gas heater pilot light. They may recover. . . . While Claire Trevor, movie star, was debating whether or not to buy a weekend cottage near Ojai, 50 miles from Hollywood, the fire which swept over more than 1,200 acres doing a million dollars damage, wiped the cottage off the map. . . . During the observance of Fire Prevention Week in Emmetsburg, Ia., the fire department answered four times as many alarms as during a normal week. . . . In Salem, Ore., seven long-term convicts set fire to the Oregon State Prison flax mill in a desperate effort to escape but forewarned guards captured them—and the fire was extinguished. . . .

Boy Burned by Salt Blast

Sprayed with molten salt by an explosion at the Utah Fire Clay Co., Salt Lake City, a nine-year-old boy suffered first, second and third degree burns of the face and left leg.

The strange mishap occurred when the lad—Dion Anderson, and another boy were in a 32-foot kiln at the fire clay company, watching employes glaze clay sewer pipes by pouring salt into a firebox in the kiln. The vapors glaze the pipes, company executives said, and molten salt remains.

The other boy, unidentified, probed in the firebox with a 10-foot stick which was wet, according to a company statement, and the action resulted in an explosion. The Anderson boy was apparently standing in front of his friend and received the blast of molten salt.

it's here!

The NEW ALFCO DRY CHEMICAL FIRE EXTINGUISHER

has these outstanding advantages . . . Longer range at all climatic temperatures! . . . Longer duration of discharge at all climatic temperatures! . . . More complete discharge of Dry Chemical contents! . . . May be operated in any carrying position! . . . Scientifically designed nozzle provides for wider coverage of fire area! . . . Gas-tight, all-internal expelling gas connections! . . . Built-in safety disc! . . . Hose couplings neatly swaged to hose for greater strength, smarter appearance! . . . High hose-mounting position avoids compacting of Dry Chemical—affords neater appearance! . . . Easy to recharge without special devices or replacement parts! . . . Occupies only 7" x 9" floor space! . . . Lighter weight—only 42 lbs. when ready for use! . . . Alfco Dry Chemical is non-toxic, noncorrosive, nonconductor of electricity and will not freeze! Underwriters' ratings: B-1, C-1. Recommended for flammable liquid and electrical fires.

Overall height 30"; Floor space occupied 7"x9"; Weight of Extinguisher, empty 17 lbs.; Weight of Dry Chemical Charge 25 lbs.; Weight of Gas Charge 8½ ozs.; Weight of Extinguisher charged for use 42½ lbs.; Total Weight packed for shipping 45 lbs.; Nozzle Polished Aluminum 6" long; Hose and Nozzle lengths approx. 26"; Shell Drawn Silicon Bronze; Finish Baked Red Enamel with Chrome, and Polished Aluminum trim.

Write us for literature and for demonstration.

AMERICAN-LAFRANCE-FOAMITE Corporation
ELMIRA · NEW YORK · U.S.A.

World Wide Fire News

By Rel B. Woolley

Dynamite Blast—Truck and Driver Vanish

A truck hauling explosives was blown to bits, December 4, four miles from Throckmorton, Tex. The driver and truck simply disintegrated. The owner of the truck could not be found, it being impossible to identify the vehicle from the shattered pieces, none larger than a man's hat. If there were any other occupants of the truck, they too were blown up.

Willis Buchanan, a rancher, who was driving nearby in his pickup truck at the time, was also killed. The driver of a third truck had a badly mangled arm.

The blast dug a crater in the road, badly damaged a house 200 yards away, rattled windows, knocked out electric service in Throckmorton, and was heard fifteen miles away.

* * *

Thousands Die in China Ship Blasts

Two Chinese marine disasters one month apart are estimated to have taken possibly 9,200 lives, according to unconfirmed reports in December.

The explosion of the crowded 2,099-ton refugee steamer Kiangya, near Shanghai, on December 4, with an estimated loss of more than 3,200 persons, ranks the disaster as the greatest in modern maritime history, including single ship casualties of major wars.

The steamer exploded from unknown causes and sank within an hour, survivors said. Sabotage by communists, overtaxed boilers and a floating mine were all advanced as possible causes of the disaster.

Officials of the steamship line said the ship's top capacity was supposed to be 1,186 persons but that previously it had carried as many as 4,250, half of whom boarded without tickets. They conservatively estimated 3,000 missing plus the 200 bodies recovered. All victims were Chinese.

This disaster brought disclosure from official Nanking sources that as many as 6,000 died in a similar sinking off southern Manchuria early in November. This catastrophe was said to involve an unidentified merchant vessel which was evacuating elements of the Governments' 52nd Army from Yingkow.

Although not announced by the military, the report was that the ship's boiler burst, setting off amunition, killing all on board.

* * *

Twelve Firemen Killed in Mexico City

The worst tragedy in the history of Mexico's fire service occurred November 28th when twelve Mexico City firemen were killed after a hardware store, weakened by fire and explosions, collapsed into a narrow downtown street, burying the firemen, police, Red Cross and other volunteer workers.

The fire in the double-front, two story store, starting from an undetermined cause, was followed by an explosion, trapping most of the victims, including the firemen and a medical student who was reported working as a rescuer at the time.

Hundreds of municipal and volunteer workers, aided by a steam shovel, labored in excavating the ruins to reach the bodies of the victims.

* * *

Navy Seeks Plastics to Cut Ship Fire Risks

The Navy seeks plastics products designed to withstand higher temperatures, offer greater electrical insulating qualities and protect against fire hazards, according to John B. Alfers of the Bureau of Ships.

Addressing a "remobilization" conference in New York City, Mr. Alfers said that silicone, fluorine and melamine resins were showing the greatest promise for such applications. In many cases they are being combined with fibrous glass where greater strength is required.

The same meeting heard another speaker Fred B. Shaw, representing the Army's Chemical Corps, say that the corps was now developing a highly flammable plastics structural material for incendiary bombs to replace nonflammable materials.

Such divergent viewpoints emphasize to the fire service the wide potentials for fire and protection against it to be found in the field of plastics.

* * *

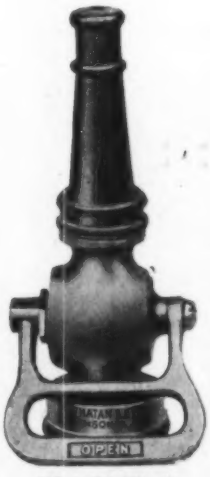
Eleven Dead in Coast Guard Ship Crash

Eleven Coast Guard men were killed and twenty-one burned or scalded aboard the Coast Guard icebreaker Eastwind

POWHATAN
Presents
"SACHEM"
LEADER LINE SHUT-OFF NOZZLE
"Sachem" - a tribal leader - and our "Sachem" leader line shut-off nozzle is truly a leader. It is the one shut-off nozzle you can order and know you are getting the best your money can buy.

SACHEM ASKS NO FAVORS ON ANY JOB
We earnestly believe that nothing but the best should be offered to so important a calling as the Fire Fighting Service. Since 1892 we have striven to produce and offer only the best precision and ruggedly built fire fighting products that can be made, regardless of cost.

Investigate the Powhatan Line ★



"SACHEM"

POWHATAN BRASS and IRON WORKS
RANSON, WEST VIRGINIA
Phones 93 & 94 Charles Town, West Virginia
Established 1892

A Distributor serves you Best

The jackets of Republic Fire Hose, made only of selected yarns and long ageing types, are plain Provar Mildew Resistant, and waxed, or in any combination. Five municipal grades, 3 industrial grades (also made with rubber or neoprene covers), and light-weight hose for forestry service are available.

YOUR DISTRIBUTOR OFFERS DOUBLE RESPONSIBILITY FOR PRODUCT SATISFACTION

WANT TO KNOW MORE?

To provide you with prompt, efficient service, Republic Rubber Division sells through carefully chosen distributors rather than branches. Write today for the name of Republic's Distributor in your area. You'll like his co-operation and product.

Your distributor is responsible for the good performance of the products he sells you . . . SO IS THE MANUFACTURER.

This double responsibility places purchasers in a safe and advantageous position, providing the policy of both the source of supply and the source of outlet is clearly understood. Republic Rubber's distributors are chosen for "Policy" and distributors choose Republic because of Republic's 5-Point Sales Policy. Such a combination is truly "double responsibility."

MECHANICAL RUBBER GOODS BY

REPUBLIC RUBBER DIVISION

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION . . . YOUNGSTOWN, OHIO
Lee Deluxe Tires & Tubes, Conshohocken, Pa.

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

in a pre-dawn fog on January 19, when the vessel was rammed amidships by the 10,000-ton Gulf Oil tanker Gulfstream.

The collision occurred about 4:30 A.M., 60 miles southeast of Barnegat, N. J., when the Eastland, carrying 162 officers and men (twenty-eight more than her normal complement) was proceeding for Curtis Bay, Md., for overhaul, while the Gulfstream was headed in ballast for Persian gulf ports, to load oil. The 6,000-ton icebreaker, a $10,000,000 craft which saw service in the last war, was struck by the tanker on the starboard side the latter's bow knifing into the sleeping quarters of the chief petty officers. Eight of the eleven men killed held that rank.

Following the collision, fire involved the icebreaker's 5-inch cork lining, installed to insulate the vessel against cold as low as 50 deg. below zero and contents of her fuel tanks. The mess hall, sick bay, recreation and ward rooms, and forward crews quarters were completely burned out. The crash laid bare part of the vessel's ammunition magazines and there was imminent danger of explosion as the fire got out of control. Heavy, choking smoke enveloped most of the vessel.

Utilizing all available fire fighting equipment, Captain John A. Glynn of the Eastwind and his men—many of them injured, fought the flames with crippled water pressure in hose lines, for four hours, at which time some of the crew were ordered aboard rescuing vessels, which had responded to radio distress signals.

At 7:16 A.M., six minutes after the Eastwind had radioed "fire in midship area. . . . Collided with S. S. Gulfstream. Total casualties unknown but it appears ten dead," the first rescue ship, the Suzanne radioed she was alongside removing injured and added shortly afterwards she was making full speed for New York while the second rescue ship, S.S. Junior was taking over rescue. Soon the Coast Guard cutters Gentian and Sassafras arrived and added their hose streams to the feeble lines of the Eastwind. Members of the crew of the Junior went aboard the burning ship and aided in fighting the fire.

The Gulfstream, with a gaping hole in her bow, had backed away from the icebreaker with fire in her forward hold following the crash. It was several hours before the extent of the damage to the tanker was determined. Fortunately the ship was traveling light otherwise her cargo of oil might ignite and cause a much greater disaster.

A five-man Coast Guard Board of Inquiry held hearings on the disaster.

* * *

"Flow Gently Sweet Action"—Britain Has Bubble Bath!

Barrels of perfume exploded as British firemen battled knee deep in soapsuds to control a raging fire in the Bronnley Soap Manufacturing Co. in Acton, near London.

The fire fighters poured tons of water into the sprawling three-story factory before they realize that barrels of soap chemicals were mixed with the water to produce the biggest bubble bath in Britain's history.

Well night overpowered by the waves of scent, which "perfumed" Acton no end, firemen slipped, staggered and skidded through the billowing suds in a futile attempt to save the structure. An hour after the fire broke out, soapsuds were still fizzing over a two-block area with cakes of soap bobbing in the currents.

* * *

Hot Off the News Ticker

Three men were killed and about 30 injured, most of them Christmas shoppers, as a result of an explosion in a machine shop in a busy street of Halifax, England. Machinery from the works, where spindles were made, was blown into the street. Cause of the blast was attributed to failure of a tank of compressed air. . . . A pre-Christmas fire caused by a short circuit did $400,000 damage to the Chemla Department Store, Cairo, Egypt, shortly before dawn. . . . A series of explosions in an ammunition dump shook Rosario in Northwestern Luzon, P. I., causing 13,000 residents to flee. A 12-year-old boy was reported killed and several laborers injured by flying debris. . . . Tokyo schools are potential firetraps the Military Government has warned, adding that "a typical fire drill consists of children jumping out of windows shrieking in panic." . . . The Tah Chung Hwa tobacco plant and ten adjoining buildings west of Shankhai burned to the ground with one dead and ten missing and heavy property loss. . . . In Guatemala, eleven persons were reported killed and 15 injured when a fireworks plant, filling Christmas orders, exploded. Plant was in a private home. (Latin

WHERE'S THE FIRE?

No. 925 Siamese with Gates

No. 900 Shut-off Nozzle with Play Pipe

Wherever it is, these and all the other items in the Buckeye Line are likely to be in action. Why? Because the efficiency of departments seldom exceeds that of the equipment they use. Check your equipment and write for catalog detailing these and other Buckeye items available.

No. 927 Exhaust Whistle

No. 930 Junior Rota Rays

No. 926 Expander

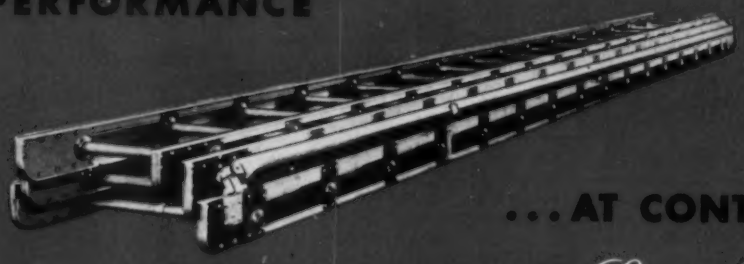
Buckeye

FIRE DEPARTMENT ACCESSORIES

BUCKEYE IRON & BRASS WORKS, Dept. E, P. O. Box 883, DAYTON 1, OHIO

Continued

TOP PERFORMANCE



...AT CONTINUED

Low Cost

built into the specifications of every original **ALUMINUM LADDER**

SPECIFICATIONS FOR TYPE 3EL HEAVY DUTY EXTENSION LADDER (ILLUSTRATED)

Model	LENGTH OF LADDERS		Thickness	Weight	Price
	Unextended	Extended			
30' 3 EL 1	13' 9"	32' 5"	10⅛"	109 lbs.	$224.25
35' 3 EL 2	14' 11"	35' 11"	10⅛"	117 lbs.	253.05
40' 3 EL 3	16' 1"	39' 5"	10⅛"	153 lbs.	272.20
45' 3 EL 4	18' 5"	46' 5"	10⅛"	174 lbs.	327.25
50' 3 EL 5	19' 7"	49' 11"	10⅛"	181 lbs.	366.10
55' 3 EL 6	21' 11"	56' 11"	10⅛"	201 lbs.	404.90
60' 3 EL 7	23' 1"	60' 5"	10⅛"	211 lbs.	441.35
65' 3 EL 8	25' 5"	67' 5"	10⅛"	232 lbs.	473.15

Our 18 years' pioneering in the development of light, strong aluminum fire ladders has double significance to your selection of truck ladders. Valuable, hard - earned experience has taught us how to build ladders that handle easier and last longer. *And* this experience enables us to produce such ladders at the lowest possible cost to you.

Year after year, original aluminum ladders bring new speed, new *safety* to fire departments throughout the nation. For your next purchase of ladders, specify fire-proof, rust-proof, *age*-proof *original* aluminum ladders.

SINGLE WALL LADDERS - TWO, THREE AND FOUR - SECTION EXTENSION LADDERS - ROOF LADDERS - FOLDING AUXILIARY LADDERS - PIKE POLES

For specifications and prices, write for Bulletin 200

CANADIAN REPRESENTATIVE: C. E. HICKEY & SONS, LTD., HAMILTON, ONT.

ORIGINAL MANUFACTURERS OF ALUMINUM FIRE LADDERS

ALUMINUM LADDER COMPANY

WORTHINGTON, PENNSYLVANIA

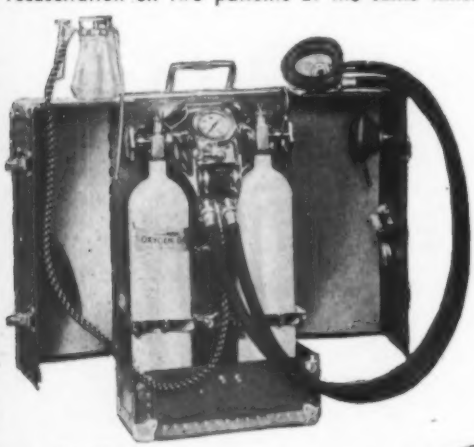
Americans use fireworks in celebrating Christmas.) . . . A powder press in the Hercules Powder Co. plant, at Kenvil, N. J., exploded on Jan. 20 injuring three men, none seriously. . . . Firemen of New Orleans, La., rescued "a number of goldfish from smoke-polluted water and revived them" during a small fire in the petshop of a small hotel. The only casualties were 15 birds and a few unlucky goldfish who died before firemen could get 'em. . . . Firemen of Kingston, Ont., were put out no end in January. They got a pay raise last June that figured out about $600 a year. Their first 1949 pay checks showed on the 14th without the advance, but with the explanation "That raise was just for 1948." . . . Fire on Jan. 14, 1949, swept the native quarter of Saigon, French Indo-China's major port, destroying 200 houses and leaving 2,000 homeless, it is reported. . . . The second large fire within a week in Juarez, Mex., destroyed one of the city's most frequented cafes, the Crystal Palace, with heavy loss. At the same time Juarez firemen were fighting this blaze, they had to answer another call at another cafe—"Joe's Place." The other serious fire caused $150,000 loss to the Ponderosa, S.A., lumber mill. . . . The Army is said to have shot a V-2 rocket sixty-seven miles into the sky. . . . Nineteen derailed tank cars burned, together with three of cotton and a 124-foot bridge, when a freight train was derailed near Temple, Tex. . . . Near Hong Kong, more than 50 passengers on the south bound train from Wuchang to Canton were injured by the second railway fire within the week. Fire was believed caused by chemicals carried by some of passengers. . . . Warren, Ark., buried 51 dead following its January 1949 tornado, which also injured 275. One hundred and twenty homes were demolished and 92 others suffered major damage. Aid poured in from all sides. . . . A double-decker bus was blown by a high wind off a bridge into the Adur River, England, the night of Jan. 1, 1949. One passenger was gravely injured. Fortunately the tide was low and passengers thrust their heads through shattered windows while waiting for firemen and other rescuers from nearby Brighton to reach them. . . .

STEPHENSON RESUSCITATOR

Makes Possible Better Resuscitation

Make use of all the advantages offered by lowered operating pressures when treating an injured chest, third degree burns, or a blue born baby. Air can be mixed with oxygen as the patient recovers. This is beneficial and saves oxygen.

The MIDGET ATTACHMENT, shown in use at right, enables you to resuscitate a patient in a hard-to-reach place. It also permits inhalation or resuscitation on two patients at the same time.



Goodner Model (Portable)

RESUSCITATOR
ASSISTOR
INHALATOR
ASPIRATOR

STEPHENSON CORPORATION
RED BANK · NEW JERSEY

WRITE TODAY FOR LITERATURE OR DEMONSTRATION

What's Burning

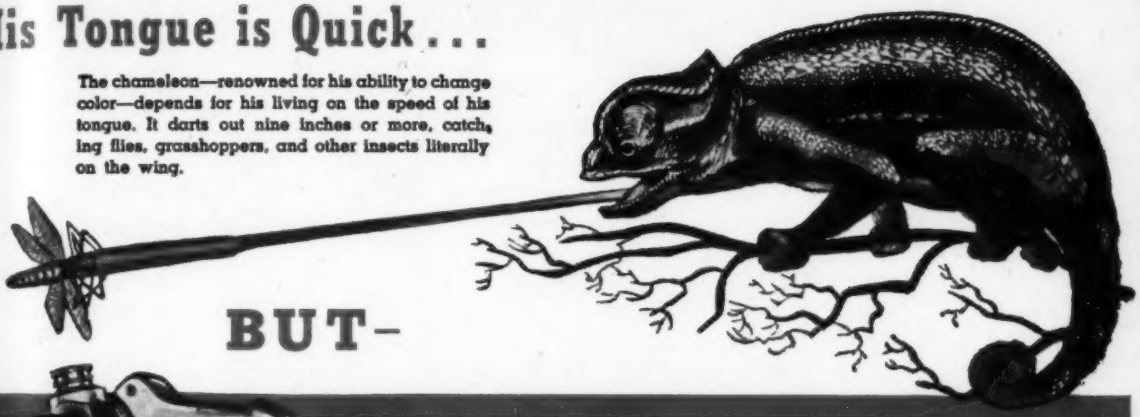
THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of January, 1949.

Month Ending January 31, 1949

Halifax, N. S.—Canada Permanent Trust & Mortgage Corp. destroyed.
Princeton, Ont.—Public and high school destroyed.
Idaho Falls, Ida.—Bonneville Grain Co. elevator destroyed.
Saratoga Springs, N. Y.—Winter stable (including 23 harness horses) at Saratoga Raceway destroyed.
Pauls Valley, Okla.—Stanolind Pipe Line Co. oil pumping station destroyed.
Plymouth Township, Pa.—Latimer Construction Co. destroyed.
Dallas, Tex.—Consumers' Supply & Plumbing Co. damaged.
Fair Haven, Vt.—Whitcomb's Hardware Store damaged.
Hot Springs, Ark.—The plt. of the Bates Broughton Lumber Co., one mile east of Hot Springs, destroyed. The saw mill, planing mill, dry kilns and a stock of finished lumber were destroyed.
Kilgard, B. C.—Main factory bldg., Clayton Brick Factory, destroyed.
Toronto, Ont.—Whse. of Klopfer Wholesale Hardware Co. destroyed.
Los Angeles, Cal.—Union Oil Co. tanks destroyed. Lightning.
Aurora, Colo.—Hangar at Sky Ranch Airport, damaged.
Chicago, Ill.—Daemicke storage fixture store; Sheffield Foundry Co. and Great Northern Auto Parts, damaged.
Sidney, Mont.—Garage of Rounce Bros. destroyed.
Belleville, Ont.—Garage destroyed.
Essex, Md.—Plt. of Champion Brick Co., Pulaski Highway, destroyed.
Belleville, N. J.—L. and B. Products Co., restaurant and hotel equip. mfrs., damaged.
Montreal, Que.—Four-story brick bldg. housing two sheet-metal firms in east-central part of city, damaged.
London, Ont.—Olympia Restaurant and candy shop damaged. Overheated refrigeration unit.
Chamblee, Ga.—Artcraft Furniture & Bedding Mfg. Co. damaged.
Wroxeter, Ont.—Dobson Bros. Egg Gradison Station, dwelling of John Colwill, poolroom of Harold Durst, grocery store-apt. bldg. of Eugene Van Zelsor, destroyed. Spark from refrigeration unit. Several adj. stores, including telephone office and David Draper's whse., damaged.
Houma, La.—Rhodes Hotel destroyed; Rhodes restaurant, Houma Novelty Co., local Western Union office and Michel's Grocery Store, damaged.
Billings, Mont.—Burlington Transportation Co. garage destroyed.
Cleveland, Ohio—Bldg. occupied by Grdina furniture store and bowling alleys, destroyed.
Oklahoma City, Okla.—Bldg. occupied by storage garage of Western Refrigeration Co. and feed storage center, destroyed.
Yakima, Wash.—Commercial garage of Ross Doliver destroyed. Defective oil burner.
Pasco, Wash.—Manor Restaurant destroyed. Faulty furnace.
Greenville, Wis.—Greenville Cooperative Gas Co. bldg. destroyed.
Milwaukee, Wis.—Business bldg. occupied by Militor Appliance Co., Hudson Equip. Co., Wisconsin Belting Co. and Fred Boehme Refrigerator Service, damaged.

His Tongue is Quick...

The chameleon—renowned for his ability to change color—depends for his living on the speed of his tongue. It darts out nine inches or more, catching flies, grasshoppers, and other insects literally on the wing.



BUT—

Nothing is Quicker than GENERAL QUICKAID FIRE GUARD For Fighting Fire!

Your life or your property may depend on the speed of your fire fighting equipment. A few seconds may spell the difference between a tiny flame and an unmanageable blaze. Quick-Aid Fire Extinguishers save you precious seconds because they operate quickly, cleanly, efficiently. Quick-Aid Carbon Dioxide Extinguishers (illustrated here) are available in all sizes from 2½ to 100 lbs. They are Underwriters' Approved and especially recommended for fires in electrical equipment, gasoline, and chemicals. Look in the classified section of your telephone book for the Quick-Aid trade mark or write direct for the name of your nearest dealer.

THE GENERAL DETROIT CORP.
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WINDSOR • MONTREAL • TORONTO • WINNIPEG

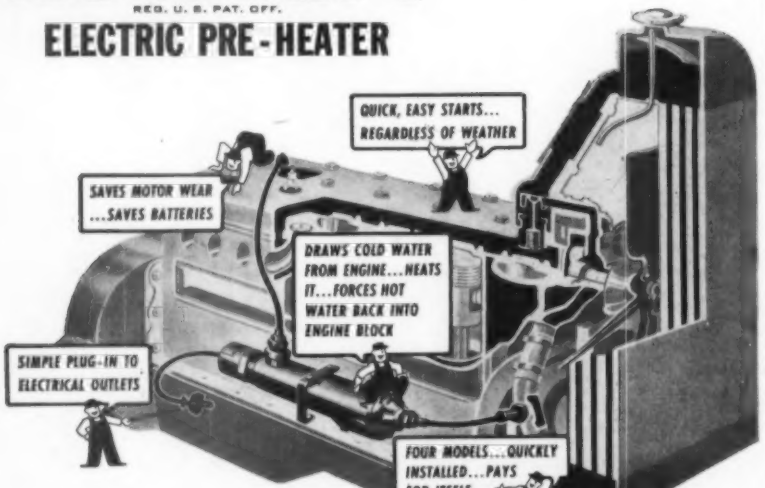
IF IT'S GENERAL IT'S DEPENDABLE

Houston, Tex.—Crawford Grain Co. damaged.
Chewelah, Wash.—Northwest Magnesite Co.'s Keystone quarry damaged.
Colville, Wash.—E. J. Strong Variety Store, clinic, furniture store and grocery store damaged.
Edmonton, Alta.—Three bldgs. of Joint service station of Royal Canadian Air Force, Churchill, Manitoba, destroyed.
Thompsonville, Conn.—St. Patrick's Church damaged.
Chicago, Ill.—Paul Daemicke refrigeration plt. destroyed.
Jasper, Ind.—St. Joseph's parochial school, destroyed. Lightning.
Worcester, Mass.—Lewis of Worcester, Inc., cleaners and dyers, destroyed.
Madison, Ohio—Minor's Bowling Alleys, West Jefferson, damaged.
Cleveland, Ohio—Two-story bldg. occupied by bowling alleys, furniture store, business owned by Anton Grdina and Sons, destroyed.
Ottawa, Ont.—St. Mary's Roman Catholic Church destroyed. Explosion in hot air furnace.
Cornelius, Ore.—Washington County flax whse. destroyed. Spontaneous ignition.
Portland, Ore.—Salvation Army Men's Social center destroyed. Spontaneous ignition.
Willamette, Ore.—Willamette Grade School destroyed. Overheated fan.
Memphis, Tenn.—Tennessee Paper Stock Co. destroyed.
Spokane, Wash.—Crescent Department Store and adj. bldg., Liberty Theatre, damaged.
Sunderland, Ont.—Business-apt. bldg. known as Bodley Block, damaged. Overheated stove.
Chicago, Ill.—Bldg. occupied by Merchants Inn Restaurant, Kruth Wholesale Meats and Prime Beef Co., damaged.
Mechanicville, N. Y.—Schuyler House restaurant damaged.
New York, N. Y.—Loft bldg., Greenwich Village, destroyed. Occupants included Miller Bros. Hat Co.
Beaufort, N. C.—Plant of Scarboro Safrit Lumber Mill, two miles away, damaged.
Madison, Ohio—Bldg. occupied by filling station, tire and battery shop of Joseph Wolbert, Wilbur Watson's beer parlor and restaurant of Ray Minor, destroyed. Dwelling owned by W. C. Brown, damaged.
Fresno, Cal.—Pipe Tire Co. bldg. damaged.
Swink, Colo.—Onion storage bldg., one mile south, damaged. Former Mennonite tuberculosis sanitarium also damaged.
Benedict, Kans.—Grocery store of Wayne Hawkworth and hardware store of George Pierpoint, destroyed.
Detroit, Mich.—Apt. bld., west side, destroyed.
Cincinnati, Ohio—Four bldgs. of Cleveland Wrecking Co., destroyed.
Alexandria, Va.—Alexandria Recreation Center, Inc., destroyed.
Halifax, N. S.—Army's tire recapping plant destroyed.
Brampton, Ont.—Green Lantern restaurant destroyed. Adj. McKillop's furniture store damaged.
St. Louis de Gonzague, Que.—Dairy of Daoust Bros., destroyed.
Oakland, Cal.—Rooming house, downtown section, destroyed.
Moline, Ill.—Bldg. on property of Dimock & Gould Co., destroyed.
Atlanta, Ga.—Two bldgs. occupied by Monte Shaw Milling Co. and feed and flour store and poolroom, destroyed.
Alexandria, Ind.—Liberty Theatre damaged.
Cheney, Kans.—Hardware and International Farm Equip. Co., damaged.
Flint, Mich.—Six stores, including Buckingham's clothing store, National Shirt Shop, Hanover Shoe Store, Douglas Shoe Store, Shapiro optometrist shop and Flint Catholic Shop, destroyed.
St. Louis, Mo.—Mansion of Cloverdale Farm, destroyed.
Sedalia, Mo.—Looney-Bloess Lumber Co. plant, damaged.
Fair Lawn, N. J.—Bldg. occupied by Fair Lawn Weaving Co., damaged.
Ambridge, Pa.—Bldg. occupied by electrical appliance shop and apt. of Michael Kubec, destroyed.
Harrisonburg, Va.—Shenandoah Transportation Co., Dayton Pike, two miles southwest, destroyed.
Seattle, Wash.—Puget Sound sheet metal works plant, destroyed.
Winneconne, Wis.—High school bldg. destroyed.
Vale, Ore.—Seven business blocks, seven apts., including tavern, meat market, variety store, phone exchange, destroyed. Faulty furnace.
Los Angeles, Cal.—Grain storage shed, destroyed.
Redding, Cal.—Main bldg. of Mineral Lodge, Lassen Park, destroyed.
Blackfoot, Ida.—J. C. Penney Co., three adj. stores, destroyed.
Saratoga Springs, N. Y.—The State Police Substation destroyed.
Fort Plain, N. Y.—The General Ice Cream Corp.'s branch plant, damaged.
Rockville Centre, N. Y.—Two factory bldgs. occupied by Active Specialty Co., damaged.
Celina, Ohio—Plt. of Fort Recovery Lumber Co., destroyed.
Milton-Freewater, Ore.—Utah Canning Co. whse. plt., destroyed.
Waynesboro, Pa.—Automobile sales bldg. destroyed, including ten automobiles.
Philadelphia, Pa.—First Baptist Church damaged.
Coaticook, Que.—A dozen bldgs. in the commercial center, destroyed.
Ardmore, S. D.—Seven bldgs. including bar, grocery store, filling station, garage and connecting storeroom) destroyed. Overheated stove.
McKinney, Tex.—Dungan feed mill damaged.
Cashmere, Wash.—Washington dehydrated food plant damaged.
Tacoma, Wash.—Residence B. B. Cheney, Brown's Point, destroyed.
Campbellton, N. B.—Grey restaurant block destroyed.
Chicago, Ill.—Business block occupied by Williams Electrical Supply Co., R. L. Electronics and Anderson & Marlin photo studio, damaged.
Betterton, Md.—Restaurant of Kay Minster, Brown General Store and U. S. Postoffice, destroyed.
Waltham, Mass.—Hotel Mercantile bldg., damaged; also Thomas Joyce Bldg. State Supply Co., Thomas F. Nolan Plumbing Co., Moran's Market, Bridge Pharmacy, Richard Clothing Mfg. Co., damaged. Burning rubbish.
Rushford, N. Y.—Methodist Church destroyed. Adj. barn of Gerlad D. Crowell, destroyed. Defective wiring.
Wade, N. C.—Two planing mills of Pope & Tart Lumber Co., destroyed.
Cincinnati, Ohio—Ertel Lighting Co. damaged.
Pittsburgh, Pa.—Plt. of Simple & Ward Co., damaged. Gas explosion.
Rigby, Utah—Midway High School bldg., destroyed.
Montgomery, Ala.—Alabama Journal and Montgomery Advertiser, damaged.
Lake Park, Ia.—Whse. of Arco Dehydrating plt., destroyed.
Mine La Motte, Mo.—Mine La Motte Consolidated School District's school bldg., destroyed.
Cabot, Ark.—The Bailey Chevrolet Co. bldg., destroyed. Nine motor vehicles, a stock of parts, several refrigerators, washing machines and radios and a large stock of tools also destroyed or damaged.

KIM Hotstart

REG. U. S. PAT. OFF.

ELECTRIC PRE-HEATER


QUICK, EASY STARTS... REGARDLESS OF WEATHER
SAVES MOTOR WEAR ...SAVES BATTERIES
DRAWS COLD WATER FROM ENGINE...HEATS IT...FORCES HOT WATER BACK INTO ENGINE BLOCK
SIMPLE PLUG-IN TO ELECTRICAL OUTLETS
FOUR MODELS...QUICKLY INSTALLED...PAYS FOR ITSELF

Quick, easy starts regardless of weather

The KIM Hotstart is particularly valuable in cold or cool weather, but its installation is worthwhile at all times, particularly on engines in vehicles being used on short run or start and stop work. If you operate mobile or stationary engines of any kind—Diesel or Gas—a KIM Hotstart will pay handsome dividends. Literature on request.

- ✓ **Reduces motor wear and depreciation.**
- ✓ **Prolongs battery life.**
- ✓ **Cuts cost of terminal heating.**
- ✓ **Quickly installed — four models.**
- ✓ **Use coupon for illustrated literature.**

KIM Hotstart Mfg. Co.
West 917 Broadway, Spokane 11, Wn.

Please send literature, prices and name of local dealer.

Name_____

Company_____

Street

City Zone

State

Port Alberni, B. C.—Machine shop of Bloedel, Stewart and Welch Co., whse., Sarita River, 25 miles away, destroyed.
Fresno, Cal.—Whse. at Pinedale Compress & Whse. Co., cotton mfrs., destroyed.
Spencerville, Ind.—Universal Tool & Die Co., Kimes Grocery and post office, destroyed.
Havre, Mont.—Bldg. used for housing machinery equip., destroyed.
Little Rock, Ark.—Main bldg. of Guy Blass Dept. Store, destroyed. Adj. annex bldg. of the dept. store and adj. bldg., occupied by Wormster Hat Shop, Dundee Clothing Store and Baumen's Men's Shop, damaged.
Los Angeles, Cal.—Theodore Roosevelt High School, damaged.
Auburn, Ind.—Raymond Pratt's Universal Tool & Die Co., damaged. The Kime Grocery Store and Post Office were also damaged.
Louisville, Ky.—Louisville Lumber & Millwork Co., damaged.
Lynn, Mass.—H. J. Dwyer Printing Co., damaged.
Jackson, Mich.—J. F. Karthen Merchandising Co., damaged.
Minneapolis, Minn.—Commerce Club Cafe and bar, destroyed.
Hudson, N. Y.—Foster Refrigerator Corp. plt., destroyed.
Newark, N. Y.—Two-story garage and apt. bldg., damaged.
St. Louis, Mo.—Great Western Bag Co. plt., damaged.
Canton, Ohio—Sawmill of Joseph E. Meyer, damaged.
Tulsa, Okla.—Whse. of National Tank Co., destroyed.
Gilmer, Tex.—Two one-story bldgs. on east side of square and Hind's dry goods store, block west of square, damaged.
Vancouver, B. C.—Elks Club bldg., destroyed.
Penticon, B. C.—Penticon High School destroyed.
Fernandina, Fla.—Standard Hardware Co., damaged. Overheated processing plt.
Atlanta, Ga.—County equip. bldg., middle of golf course at North Fulton Park, destroyed.
Batesville, Ind.—Big Inch pipeline, Morris, owned by Texas Eastern Transmission Corp., destroyed. Also pumping equip. bldg. owned by Federal Government, destroyed.
Davenport, Ia.—Bldg. of Maple Lane Trailer Park, grocery store, destroyed. Overheated stove.
Des Moines, Ia.—Bldg. housing Associated Lithographers Corp. and Socony-Vacuum Oil Co. whse., destroyed.
Mason, Mich.—Three business bldgs. occupied by C. L. Jacobs Accessory Store, Fox Cleaners and Dyers, and Lyle Morse restaurant, destroyed.
Missoula, Mont.—First Treasurer State Wood Mfg. Co., damaged.
Piera, Minn.—Municipal liquor store, Nick Lochcider Grocery, Star Theatre, Boss Plumbing & Heating Shop and two apts., destroyed.
Newark, N. J.—Christian Schmidt Furniture Co.'s store and whse., damaged.
Wilmington, N. C.—Orton Hotel and six adj. bldgs., damaged.
Pendleton, Ore.—Umtillia State Liquor Store, Barber Shop, destroyed.
Regina, Sask.—Office, car barns bldg., and 75 per cent of rolling stock (44 vehicles) of Regina's Municipal Transportation System, destroyed.
Westminster, Md.—Natl. Advertising Co. and Carroll Upholstery Co. plt., destroyed.
Sunapee, N. H.—Sunapee Harbor Hotel, destroyed.
Minot, N. D.—Dutch Mille, dine and dance spot, U. S. 2, destroyed.
Willow Grove, Pa.—Horsham Inn, Easton Pike, damaged.
Downsville, N. Y.—First Natl. Bank, Downsville Theatre, Bernstein and Woods Drug Store, telephone exchange and four living apts., destroyed. Defective wiring in popcorn machine in theatre lobby.
Scottsboro, Ala.—Jackson County High School, destroyed.
Litchfield, Minn.—Mill and three connected whses. of Farm Feed Mfg. Co., destroyed.
Laurel, Miss.—Whse. at Army Air Base, destroyed.
Water Valley, Miss.—First Methodist Church, damaged. Defective wiring.
Wallace, N. C.—Furniture store of Z. J. Carter & Sons, damaged.
Columbus, Ohio—McCauley Furniture Store, Ironton, destroyed.
Huntington, Ore.—High school and grade school, destroyed. Faulty furnace.
North Bend, Ore.—Methodist Church, destroyed.
San Francisco, Cal.—Pacific Foundry, Mission Foundry, Diamond-T Motor Truck, Crucible Brass Foundry, Occidental Plating Works, adj. bldgs., 19th and Folsom Streets, and dwelling, damaged.
Huntsville, Ont.—Two major whses., destroyed.
Burlington, Ia.—Bldg. occupied by fibercraft shop, paint and insulation shop and truck loading dock, destroyed.
Independence, Mo.—Bldgs. eight blocks from summer White House (two hardware stores, office equip co., jewelry store, printing co.,

You are always assured of a full, steady stream at top pressure with Eureka "Streamlined" Fire Hose. "Washboarding" is eliminated because Eureka's Smooth-Interior Filler Ply keeps the inner surface of the jacket perfectly smooth and level at all times.

The aging qualities of Eureka rubber linings are proved in advance by the Oxygen Bomb Test. Strong and tough though Eureka is, it also has a high degree of flexibility, thanks to the Eureka Balanced Weave which produces a fabric of correctly twisted cords under uniform tension.

Eureka's patented method of Controlled Curing makes the hose easier and safer to handle. Eureka will not "run amuck"—can be conveniently managed on the ground or on ladders, or when loading on the wagon.

Every length of Eureka is tested for burst resistance, elongation, warp and twist. Mildew-proofing is guaranteed by the unique "Formula X."

"For greater protection to life and property"

EUREKA FIRE HOSE

Division of United States Rubber Company

195 Hudson Street • New York 13, N. Y.

sewing machine co., dry goods store, storeroom, destroyed. J. C. Penney store, tavern and cafe, damaged.

Carterville, Ill. (Dec.)—Methodist Church, destroyed. Overheated furnace.

Defiance, Ia.—Hatchery of Harlan Produce Co., I. G. A. grocery of Arthur Hulsebus, and bldg. occupied by Defiance Drug Co., destroyed.

Boston, Mass.—Big board plt. of U. S. Gypsum plt. at Mystic docks, Charlestown section, destroyed.

Allen, Neb.—Hutchings Locker System and the Cash Feed & Seed Store and General Merchandise Store, destroyed.

Asheville, N. C.—Plt. of Siosman Corp., wiping cloth mfrs., destroyed.

Yakima, Wash.—Potlatch Lumber Co., Buena, destroyed. Faulty stove.

Vancouver, B. C.—Six Home Economics huts at Univ. of British Columbia, destroyed.

Chicago, Ill.—Braud Automobile Agency, Christensen Riding Academy and Brent Store Fixtures Agency, damaged.

Chicago, Ill.—Vacant bldg., 500 S. Peoria St. and bldg. 512 and 513 S. Sangamon, occupied by Tucker Paper Co. and others, damaged.

Salem, Ore.—Chuck's tavern destroyed.

Vancouver, B. C.—Univ. of British Columbia damaged. Explosion.

Valleyfield, Que.—The J. O. Clairmont, Ltd., door and window factory, damaged. Overheated stove.

National City, Cal.—A drug store, candy store, jewelry store, music store, five and ten store, children's wear shop, shoe store, cafe, offices of Knights of Pythias lodge rooms, destroyed.

Seneca Falls, N. Y.—The Endicott-Johnson shoe store, the Mose Lurie men's furnishings store and a new restaurant, damaged.

Philadelphia, Pa.—The Curtis Institute of Music in the Rittenhouse Square section, damaged. Blow torch ignited insulation.

Searcy, Ark.—Crow Burlinghame Auto Parts Store and Family Shoe Store destroyed. Bldgs. of White County Motor Co., Central Barber-shop and office of Arkansas Employment Security Division, damaged.

Marquette, Mich.—Sawmill of Peter Raish, outskirts of city, destroyed.

Salt Lake City—Royal Crystal Salt Co. plt., near Saltair, destroyed.

Dawson Creek, B. C.—Planer mill of Wilson Freightways, destroyed.

Safety First

ANNOUNCING THE ADDITION OF TWO STARTLING NEW FIRE EXTINGUISHERS TO THEIR DRY CHEMICAL LINE . . . .

APPOINTING DEALERS NOW

to sell Safety First Equipment on a protected basis and to service present equipment now in your territory.

Here's an amazing sales opportunity to add to your present line, Safety First's great new dry chemical extinguishers! Underwriter's Laboratories, Inc., has awarded Safety First the highest rating ever given an extinguisher of corresponding poundage, B-1, C-1 for the 10-pound Safety First! Also available in light, compact 5-pound size. Unlimited sales potential . . . for industrial plants, busses, trucks, all motorized equipment! Write now for further details about amazing Safety First Dry Chemical Fire Extinguishers!

SAFETY FIRST COMPANY

ELMSFORD, NEW YORK

Persons in the News

Hilton Joins Sprinkler Association

Appointment of H. E. Hilton as Executive Director and Counsel of the National Automatic Sprinkler and Fire Control Association, with headquarters at 205 East 42nd Street, was announced recently by William J. Carroll, President of the Association.

For the last six years Mr. Hilton has been Assistant Manager of the Insurance Department of the Chamber of Commerce of the United States in Washington. In that position he has served as Secretary of the National Fire Waste Council, which conducts, among several hundred local chambers of commerce, an annual fire prevention contest.

In his new position, Mr. Hilton will serve his association at both national and local levels and will assist in the association's Washington activities.

Mr. Hilton brings to the association many years of organization and promotional experience in the field of insurance. Prior to his association with the National Chamber he had served in executive capacities with the Calvert Fire Insurance Company, of Baltimore; the Employers Mutual Casualty Company, Des Moines, and the Securities and Exchange Commission, Washington. He also practiced law at Des Moines.

Appointments and Promotions

ATTALLA, ALA.—John H. Hulgan has become Chief of the Attalla Fire Department, succeeding Fred Cash, who held the office for seven years. The new Chief previously served as a member of the Camp Silbert Fire Department and as its chief during its activation.

Retirements

ROSWELL, NEW MEX.—Rue Chrisman retired on Jan. 7, 1949, as Chief of the Roswell, N.M. Fire Department. Retirement is mandatory at 65 years of age in that state.

Chief Chrisman entered the fire service in Fort Worth in 1909, leaving it in 1916 to serve in the Army in World War I. He returned to the Fort Worth department in 1918, following his discharge, and in 1920, left that city to return to his home, Roswell, where he entered its fire department. In 1926 he was appointed chief, in which capacity he served until his retirement. Chief Chrisman is an active member of the International Association of Fire Chiefs.

Obituaries

Fire Marshal M. F. Shea Dead

Fire Marshal Michael F. Shea, a member of the Naugatuck, Conn., Fire Department for more than 30 years, died in his home, 84 Beebe Street, on Dec. 22 following an illness of nearly a year. He was 65 years of age.

In 1918 Mr. Shea, an expert electrician, was named Superintendent of Fire Alarms and in 1920 he was made Fire Marshal. Three years later, in 1923, the Board of Warden and Burgesses voted to engage Mr. Shea as Superin-

tendent of Fire Alarms, Fire Marshal and a part-time driver in the Fire Department.

A native of Colchester, he moved to Naugatuck at the age of five. Prior to becoming a permanent member of the Department, he was employed for 13 years as a "trouble shooter" for the Southern New England Telephone Company.

Funeral services were conducted on Dec. 27 from the C. H. Green Funeral Home and St. Francis' Church with burial in St. James' Cemetery.

TOM MAGNER.

Charles Nickerson Dead

Ex-Chief Charles L. Nickerson, who organized the Cape May County, N. J., Firemen's Association and served as its president for 25 years, died recently at the age of 81. He also served as chief of the Wildwood, N. J., Fire Department for 25 years.

In 1904, Chief Nickerson joined the Holly Beach Fire Department, and four years later was made chief. He served as vice-president of the New Jersey State Fire Chiefs Association and as chairman of the board of managers of the fireman's home at Boonton. He also was president of the Firemen's Exempt Association and the Holly Beach Fire Company. He is survived by his wife and a son.

Chief R. P. Lum Dead

Chief Reginald P. Lum, 57, member of the Madison, N. J., Fire Department since 1919 and chief since 1936, died recently after a three months illness. He was the oldest borough employee in point of service, acting as both fire chief and head lineman of the water and light department.

Chief Lum started his career as fireman with the hose company, and took on his water and light department duties in 1916. He was named assistant lineman in 1922 and appointed head lineman in 1930. He worked as an electrician before joining the fire department. He served in the Navy in World War I.

Robert Chambers has been named to succeed Chief Lum as head of the fire department. For several months prior to this appointment, Chief Chambers served as acting head of the organization. He worked as first Assistant Chief under Chief Lum since 1934. He is also an employe of the Water and Light Department.

Chief Chambers was appointed assistant chief lineman in January 1949, advancing from assistant lineman which post he held since 1925.

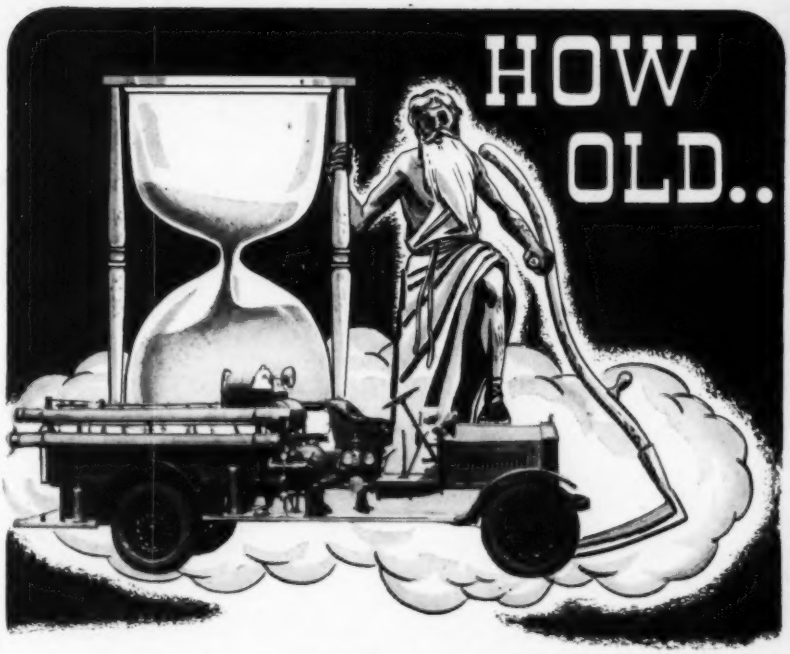
Fred O. Jaggers and Edward F. Daniher Jr., have been appointed First and Second Assistant Fire Chiefs respectively.

Seagrave Supervisor Dies

George S. Herren, 45, welding supervisor of the Seagrave Corporation Columbus, O., died suddenly on January 26, 1949.

Mr. Herren enjoyed a wide acquaintance among members of the nation's fire service who will regret his passing.

He is survived by his wife Mrs. Herren, and a daughter, Mrs. Lloyd Koons, also his parents, four sisters and two brothers.



is your *FIRE FIGHTING EQUIPMENT?*

Is old age creeping up on your fire apparatus?

Does it start promptly? Are the brakes dependable? Is the steering mechanism safe? Are the tires sound and of proper size? How about the engine and pump?

Possibly you are spending too much money for maintenance and repairs on obsolete and hazardous equipment; machines that should long since have been discarded.

When considering new equipment, we suggest that you study carefully its pump. Comparison of the details of construction will reveal the outstanding features of the WATEROUS pump — its ability to "take it" and stay young over many years. WATEROUS pumps are available on well known apparatus.

SINCE Waterous Dependable 1886

ALSO MANUFACTURERS OF WATEROUS FIRE HYDRANTS

WATEROUS FIRE PUMPS

WATEROUS COMPANY · ST. PAUL, MINNESOTA

Ex-Chief Maxson of Gloversville Dead

Former fire chief Reuben A. Maxson, of Gloversville, N. Y., passed away on January 18, 1949.

Chief Maxson was appointed head of the Gloversville Fire Department in January 1901 and retired on pension in January 1939. He was a life member and past president, as well as a charter member of the New York State Association of Fire Chiefs, and also a member of the International Association of Fire Chiefs.

Obituary

TROY, ALA.—Fire Chief E. L. Mitcham, for almost twenty years head of the Troy Fire Department, died recently after a long illness. City officials eulogized his devotion to duty. The Commission has named Jeff White as acting chief.

Fire Losses in 1948 Set New Record

Fires destroyed property and resources with an estimated value of $711,114,000 in the United States during 1948, the greatest destruction by fire in a single year in the history of the nation, it is announced by W. E. Mallalieu, general manager of the National Board of Fire Underwriters.

This record fire loss is 2.7 per cent higher than estimated losses of $692,635,000 incurred during 1947, the previous record year.

Fire destruction in December, 1948, was estimated at $69,397,000, an increase of 31 per cent over losses of $52,949,000 reported in November, 1948, and an increase of 1.5 per cent over losses of $68,361,000 reported in December, 1947.

The record fire losses of 1948 climax several years of steady increases in the level of fire destruction. For example, losses in 1948 were 122 per cent higher than the 1942 figure of $314,849,000, lowest wartime year. For the past 10 years, property and resources valued at an estimated $4,481,812,360 have been destroyed by fire, as the following table shows:

Incurred fire losses in the United States for the past 10 years are (these totals represent totals of monthly estimates):

1939	$313,498,840
1940	306,469,520
1941	322,357,000
1942	314,849,000
1943	380,235,000
1944	423,538,000
1945	455,329,000
1946	561,487,000
1947	692,635,000
1948	711,114,000
Total	$4,481,512,360

Many reasons have been suggested for the great volume of fire losses, Mr. Mallalieu said. Among the most important are the increased values of property, the greater congestions and concentrations of values, and the higher occupancy rate of buildings.

"This means that every fire during the past few years has been able to destroy more property in dollar value than ever before, and it has taken more dollars to repair or replace property destroyed by fire. Higher property values and price levels have thus made fires more destructive, and have resulted in a record number of conflagrations during the past year."

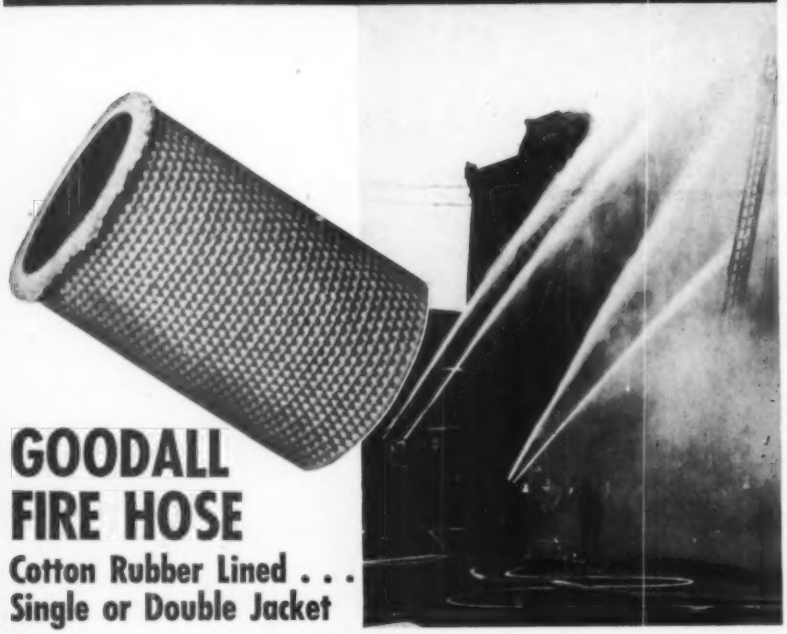
Many other factors have contributed to the rising losses, including the rapid obsolescence of heating plants, electrical circuits and buildings due to overloading and overcrowding, use of new industrial processes without proper safeguards, growth of cities faster than their fire departments, and the expansion of industry and commerce in rural areas where fire protection, water supplies and alarm systems are inadequate. During the war years there were shortages of manpower and equipment in a large number of the nation's fire departments, but these lately have been overcome in some places.

Here are the estimated fire losses in the United States during 1948:

January	$63,010,000
February	71,521,000
March	74,236,000
April	63,751,000
May	59,256,000
June	54,706,000
July	50,955,000
August	49,543,000
September	49,945,000
October	51,845,000
November	52,949,000
December	69,397,000
Total	$711,114,000

These reported losses under fire insurance policies include an allowance for uninsured and unreported losses.

The Hose With a Reputation for Long-Service Reliability



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Cotton Rubber Lined . . . Single or Double Jacket

Every detail of construction contributes to the strength, durability and safety for which this hose is famous . . . as perfect in quality as it is possible for men and machines to produce. Jacket of selected long fibre cotton duck withstands exceptionally hard wear and rough treatment, with effective resistance against snagging, puncturing, bursting. Rubber lining is tough, durable, carefully cured. Flexibility and relatively light weight assure easier handling and coiling. Made in all standard sizes.

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Est. 1870

The figures are based on fire and lightning losses only and do not include losses under any other coverages such as explosion.

Nets Save Seven

(*Continued from page* 101)

abled the firemen in the few seconds at their disposal to get the net into operation and transmit the instructions to the volunteers in readiness to catch the two Plukas.

Among the firemen treated for smoke narcosis or other injuries at the fire were Lieut. Chris Fennel, Rescue Co.; Firemen John McKenzie, Engine 1, both of whom were hospitalized; Firemen James McEntee, Gene Pouria, Harry Martin, Dan Van Aiken, Boettius McGillicuddy and William Fahey, all of whom were treated on the scene by Fire Surgeon Charles Morrone.

Questions and Answers

Utilizing Full Pumping Capacity

To the Editor:

I have a hydraulic problem on which I would like your advice. It concerns a 40-room two-story frame hotel with composition siding and shingles. The closest hydrant is 1,000 feet away with 800 gallons per minute available through two 2½-inch ports.

The problem is how and where to place the following equipment to the best advantage, using 150 feet for the length of the working lines.

All hose beds are divided with one side for a straight lay and the other for a reverse lay.

Engine 1: 750 G.P.M. class A triple combination pumper with 750 feet of 2½-inch hose on each side.

Engine 2: 750 G.P.M. class B triple combination pumper with 400 feet of 2½-inch hose on each side.

Engine 3: 600 G.P.M. class B quad with 750 feet of 2½-inch hose on each side.

All three pumps are two-stage centrifugal. Both 750-gallon pumpers carry two 16-foot soft suctions, 3-inch with 2½-inch couplings. It will be necessary to have the quad at the fire for its ladders. The question is: should all rigs be used, and at what pressure will they pump? Please indicate the incoming pressure on the center rig when all three are used.

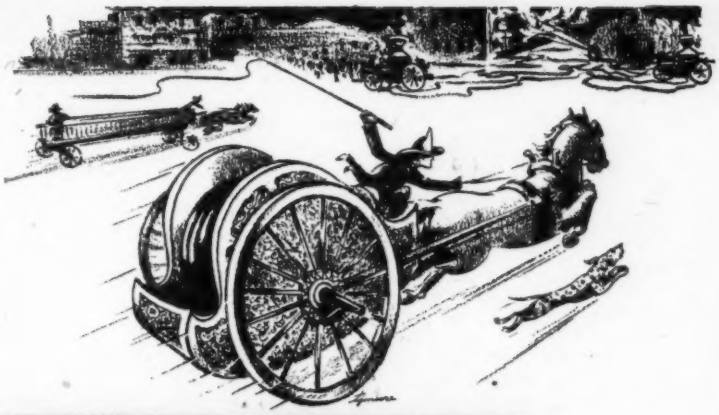
M. C. W.

Answer: First, the total hose available from the three units is as follows:

Engine 1 — 2 × 750 = 1500 feet
Engine 2 — 2 × 400 = 800 feet
Engine 3 — 2 × 750 = 1500 feet

Total.....3800 feet of 2½-inch hose

While many solutions may be given to this problem, one which appears to be



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In the days of the horse-drawn hose cart, damage from smoke and water was often greater than the actual fire loss, but times and techniques... as well as equipment... have improved. Shuredry Green-Bak Salvage Covers are standard equipment for trained salvage crews who save fire victims millions of dollars each year in salvage of merchandise, furniture and fixtures.

FULTON Shuredry GREEN-BAK SALVAGE COVERS

they Top every test

Shuredry Green-Bak Salvage Covers top every test for water penetration and seepage. Pressure-impregnated with the exclusive Fulton *dry* treatment, Shuredry covers will not stiffen in cold weather or become tacky in heat. They're always fast to spread . . . easy to fold and carry.

Approved **Factory Mutual Laboratories and National Board of Fire Underwriters**

FIREMEN'S ASSOCIATIONS TEACH WITH SHUREDRY

Many progressive associations use Green-Bak Shuredry Covers to teach modern methods of salvage to smaller departments in their state.

On your next order to your fire equipment dealer specify Shuredry Green-Bak Salvage Covers.

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Manufacturers Since 1870
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The "New Yorker" 8-comb "Regulation" style. Other styles available.

No other helmet—whether of leather, metal or plastic—has yet matched the stand-up-ability and wear-proofness of CAIRNS LEATHER HELMETS. Many of them, in the largest departments where the service is hardest, are still in use after 25 or 30 years of tough duty. In the long run, they are the cheapest helmet a fireman can own—for they'll give him life-time protection.

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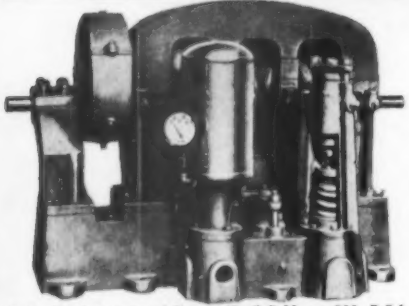
Let us supply you these important adjuncts to the successful department: Loose-Leaf Fire Records in sizes for 375 to 1500 alarms; Secretary's Record Books, with removable leaves for typing if desired; Secretary's Blank Forms, Notification Cards and Certificates, for all purposes.

DEPARTMENT RECORD BOOKS

Write for CATALOG 331

FOG OR STREAM AT 800 P S I



This Hardie pump delivers 60 G.P.M. at 800 P.S.I. A smaller model gives 35 G.P.M. at 800 P.S.I. Both reach rating at slow engine speeds.

Your investigation will reveal many exclusive advantages in Hardie High Pressure Pumps and Fog Guns for Fog Fire Fighter units. Specify a Hardie pump when you buy—Hardie pumps are standard with the leading fire control equipment manufacturers. Write for complete data.

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High Pressure PUMPS AND FOG GUNS for Fog Fire Fighters

as good as any available is to employ the following layout:

From Engine 1, stationed at hydrant, stretch two 350-foot lines of 2½-inch hose and siamese them into a single stretch of 2½-inch hose 800 feet in length. This will employ 1500 feet of 2½-inch hose and will represent a stretch of 1,000 feet from the hydrant to the fire plus 150 feet for the working line at the end.

Solving this layout for nozzle pressure and discharge, we proceed as follows:

Combine the two 350-foot lines of 2½-inch hose into a single line of 2½-inch by dividing by the factor 3.6.

$350 \div 3.6 = 97.3$ feet, or 100 feet approximately.

Add this 100 feet to the 800 feet of single line, and we have a total of 900 feet of 2½-inch hose.

The engine pressure will be maintained at, or around, 200 pounds where the line is fitted with 1⅛-inch nozzle.

K for 1⅛-inch nozzle on 2½-inch hose is .167.

L, the number of 50-foot lengths of hose in the line is $900 \div 50$, or 18.

Engine pressure is 200 pounds.

Then nozzle pressure $= 200 \div (1.1 + .167 \times 18)$

$= 200 \div 4.1$

$= 48.8$, or 49 pounds approximately.

The discharge from a 1⅛-inch nozzle at 49 pounds pressure is 262 gallons per minute.

The other two engines would be employed in a relay layout as follows:

Engine 2, a 750-gallon pump would be placed at the hydrant and two parallel lines each of 700 feet in length stretched to Engine 3. From Engine 3 two parallel 450-foot lines of 2½-inch hose would be stretched to the fire and equipped with 1⅛-inch nozzle each.

Here again the layout provides for the 1,000 feet from the hydrant to the burning building plus 150 feet each additional for the working lines.

Engine 3, which is a 500-gallon per minute unit, would be operating at 120 pounds.

The nozzle pressure on each of the two lines would be as follows:

N. P. $=$ E. P. $\div (1.1 + KL)$

$= 120 \div (1.1 + .167 \times 9)$

$= 120 \div 2.603$

$= 46$ pounds.

The discharge from the 1⅛-inch nozzle at 46 pounds pressure is 254 gallons per minute, and the discharge from the two nozzles would be 508 gallons per minute.

As this is a little above the capacity of the pumper, and if we must adhere strictly to limiting the discharge from the two lines to the capacity of the pumper at 120 pounds, the pressure at engine no. 3 would therefore have to be dropped a couple or three pounds. However, this is not a serious factor.

Assuming that we operate Pumper 3 to give 45 pounds rather than 46 pounds at each nozzle, we would have a discharge from each nozzle of 251 gallons per minute, or a total of 502 gallons, which is sufficiently close to the exact discharge of the pumper at 120 pounds to be acceptable.

Then each of the two lines stretched from Engine 2 to Engine 3 would be carrying the same quantity of water, namely, 251 gallons per minute.

The friction loss in 100 feet of 2½-inch hose carrying 251 gallons per minute is 15.3 pounds approximately.

The friction loss in 700 feet would be 7 times this amount, or 107.1 pounds approximately.

As the pressure at Engine 2 is 120 pounds, and as 107.1 pounds is lost in friction, we would have an inlet pressure to Engine 3 of 120 — 107.1, or approximately 13 pounds. Where the pressure at Engiine 3 is dropped a little bit to keep the discharge from the two nozzles within its capacity, we would have a couple of additional pounds over the 13 as the inlet pressure.

Then the total quantity of water discharged by the two engines on the fire, and therefore the quantity taken from the hydrant each minute, would be 262 + 502, or 764 gallons per minute.

This layout just about uses up the available supply from the hydrant as well as all of the fire hose carried, in addition to meeting the specifications laid down by the problem.

Specifications for "Good" Fire Stream

To the Editor:

We have a fire hydraulics booklet published by the Michigan Inspection Bureau and under the heading "Streams and Friction Loss," this question and answer is given:

"What constitutes a good fire stream?"

Answer: "One that reaches the seat of the fire in approximately a solid mass, one that appears to shoot nine-tenths of its body inside a 15-inch circle."

In discussing this problem, the following interpretations have been brought out:

1. The 15-inch circle is at the seat of the fire and 9/10 of the striking part of the stream enters the circle.

2. The 15-inch circle is moved up from the tip, enclosing 9/10 of the length of the stream within the circle.

J. F.

Answer: The requisites of a good fire stream are as follows:

1. A stream which at limit named has not lost continuity of stream by breaking into showers of spray.

2. A stream which up to the limit named appears to discharge nine-tenths of the whole volume of water inside of a circle 15 inches in diameter, and ¾ of it inside a 10-inch circle.

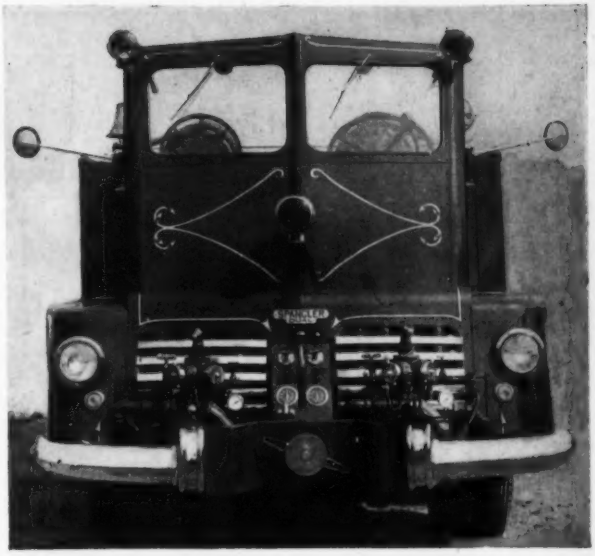
3. Which is stiff enough to attain in fair condition the height or distance named, even though a fresh breeze were blowing.

4. Which at limit named will, with no wind, enter a room through a window-opening and barely strike ceiling with force enough to spatter well.

From the above, it is evident that with a certain named limit, the stream may be good, while at another, it may be poor. For instance, a stream which holds it solidity for a distance of 50 feet may be completely broken up at 75 feet.

Your contention is correct that the 15-inch circle is at the seat of the fire, where the rule is being applied to a fire stream in actual operation of extinguishing a fire. Nine-tenths of the water

Something Really New!



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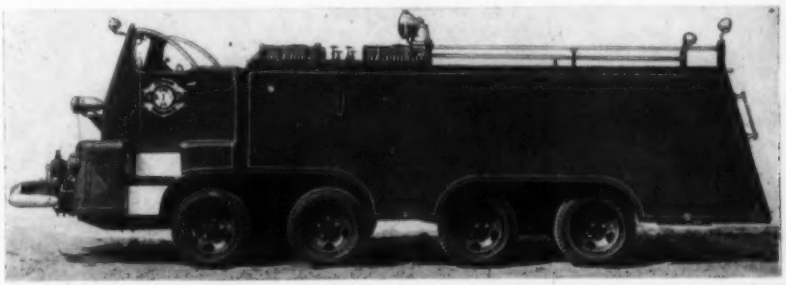
- Dual-geared—Power applied to two rear axles.
- Dual fire-fighting power—Twin 500 GPM standard front-mounted pumps; individual or dual operations.
- Dual-plus water capacity—More than double normal large booster tank capacity.
- Dual booster lines—Twin 300-ft. booster lines on double-dual reels. Operate individually or in tandem.
- More than double the normal hose-carrying capacity-room for 5000-ft. of 2½ in. hose, or its equivalent.
- Service and parts available through any recognized Ford Agency.



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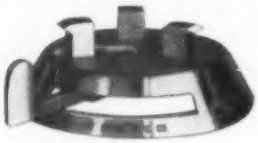

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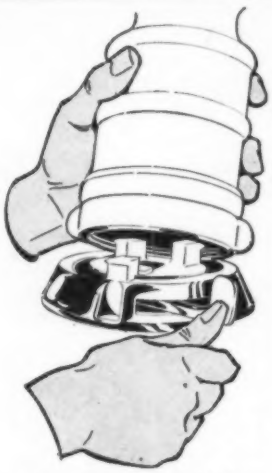

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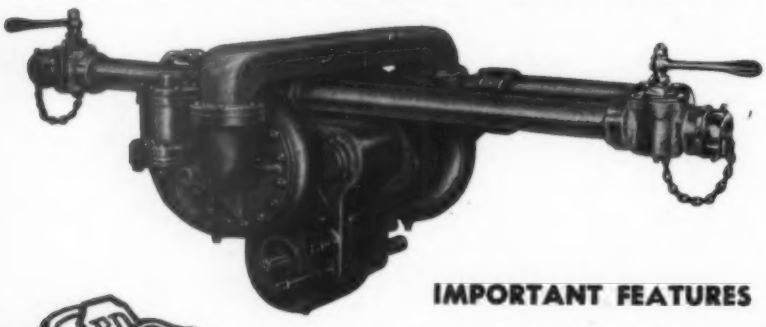
— Duplex-Multistage, Centrifugal, Midship Mounted —



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IMPORTANT FEATURES

1. First Duplex-Multistage Pump developed for fire-fighting purposes. 2. The only fire pump with THREE distinct operating characteristics — other two stage pumps have only two operating characteristics. 3. Two independent pumps — breakdown of one pump still leaves one in service. 4. Heavy construction for high pressure "fog" service.

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PUMPS, INCORPORATED
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In Canada: C. E. HICKEY & SONS, Ltd., Hamilton, Ont.

must be passing through this circle of 15 inches in diameter and striking the fire.

To determine the maximum length of an effective fire stream, you would, as you suggest, move the 15-inch circle from the tip up to a point where it was circumscribing nine-tenths of the water delivered by the stream.

News of the Manufacturers

Scott Senior and Junior Sling Air Paks

Scott Aviation Corporation, Safety Equipment Division, has introduced two additional models of its breathing equipment having special interest for fire fighters.

These are known as Scott Air-Pak Senior Sling Pack, "6000-B4" and Scott

Model 6000-B4A Senior Sling Pak

Air-Pak Junior Sling Pack, "6000-B1, B3." Both are portable and incorporate practically all of the features of the larger, standard Scott Air-Pak. They also have Bureau of Mines approval.

The Senior Scott Air-Park is charged to 1800#, has duration of 15 minutes at extreme exertion and weighs, worn, 18#.

The Junior Scott Air-Pak (not illustrated but generally similar to the Senior type) is charged to 1800#; duration is 7 minutes at extreme exertion, and the weight, as worn is 12#.

These and other Scott Air-Pak types are pictured and described in a new booklet #510, available upon application.

Film on Use of Wet Water

"Fire-Fighting with Wetter Water," a new 20-minute 16 mm. sound movie in color by Carbide and Carbon Chemicals Corporation, is now available for showings to municipal, volunteer, and industrial firemen or groups interested in fire-fighting and fire prevention. The movie illustrates how water made wetter by the Corporation's new product, "Unox" fire-fighting penetrant, knocks out fires 3 to 4 times faster than plain water. It also shows tests run throughout the country by various members of the fire service demonstrating the speed of

knockdown and quick extinguishment now made possible when "Unox" penetrant is added to water. Fire tests depicted include demonstrations of wetter water on fires in cotton, wallboard, wooden shacks, and various flammable liquids.

Interested groups are invited to arrange for showings without charge by writing Carbide and Carbon Chemicals Corporation, Room 328, 30 East 42nd Street, New York 17, N. Y.

Manila Reconstructs Fire Alarm System

The City of Manila, Republic of the Philippines, recently ordered from The Gamewell Company, Newton Upper Falls, Massachusetts, a complete new municipal fire alarm system. The new system is intended to replace the original Gamewell fire alarm system installed in 1903 and destroyed during the recent war with Japan.

The system consists of a manually operative central station outfit, 28 fire station alarm and recording outfits, and 600 standard municipal fire alarm boxes of the Three-Fold type. The installation is scheduled for completion this year and will be supervised by Gamewell engineers.

Bamboo Cane Frames Back Again

The Wentworth-Forman Co., Inc., manufacturers of the "Head-Master" fireman uniform cap announced that they are now making their Bell Top fireman caps on genuine bamboo cane frame again.

During the war their supply of this cane was cut off from China, but they had a substantial stock on hand to last until 1944. When this was gone they resorted to the best available substitute which they used until 1948. Circular on fireman caps and badges is available. Write to the Wentworth-Forman Co., Inc., 21-23 Edinboro Street, Boston, Mass.

New York State Training Program Starts

The program to train 200,000 volunteer firemen in New York State got under way January 17, 1949, when more than 50 men representing 44 counties of the State began a five-day course on "instructor teaching."

The program is one of the projects of the Bureau of Fire Mobilization of the State Division of Safety, Thomas W. Ryan, director. Thomas H. Coates, former deputy chief of Rochester, heads the Bureau and directs the state training.

The delegates to the opening session were for the most part instructors selected by representative county fire advisory boards, which have been appointed to direct the countywide training. They represent almost two thirds of the total number of instructors, which will ultimately be maintained by the State.

The initial five-day conference was devoted to the fundamentals of instructor training. The instructor was W. Fred Heisler of Okalahoma A. & M. College, assisted by members of the Rochester Fire Department's Fire College, directed by Battalion Chief Ambrose Foos.

On the last day of the session, mem-

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The well-known 1500 watt "US" Portable Electric Plant is now even better! More compact . . . easier to carry . . . with improved magneto ignition . . . improved design for even greater dependability! Automatic voltage regulation. Positive splash lubrication. No fussing to mix gas and oil. 3.8 HP 4-cycle engine. Only 22 inches high, and weighs just 160 pounds. Other "US" units from ½ to 140 kw. Write for details.

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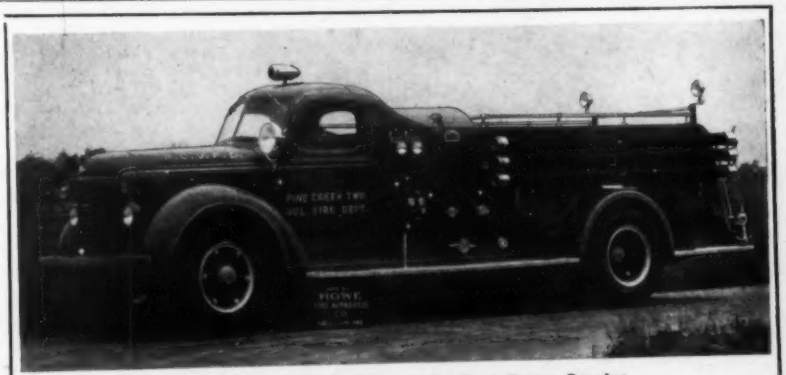

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Established 1872
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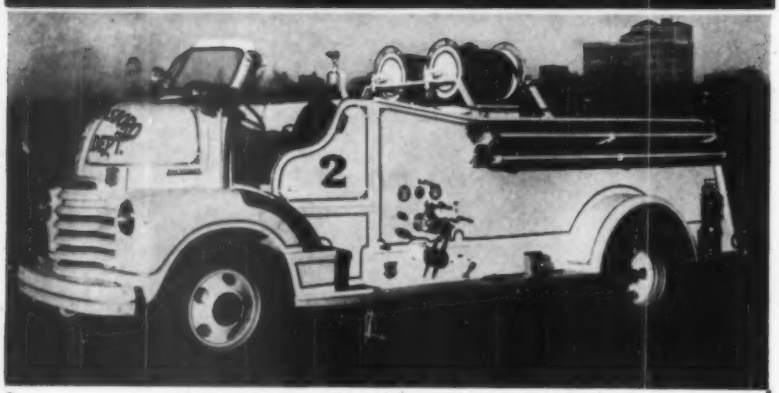

Central Fire Equipment Mounted on Cab Over Engine Chassis

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Here's the answer! DAVY Automatic FIRE ESCAPE

An absolute necessity in every fire department, eliminates carrying people down ladders. Five times as fast as old ladder methods—with absolutely no danger to either firemen or rescued person. Lowers adults or children at about equal rate (2 feet per second). When one victim is on the ground another strap is at the window ready for second victim or fireman who makes the rescue. Get one now, convince yourself, chief, and you'll put them on every ladder truck. Hotel model fastens inside window frame. This model should be recommended by fire inspectors for every hotel, rooming house and institution in town. It's a lifesaver!

Avoid strain and weight on extended ladders—no deaths or injuries from deadweight handling on icy or wet rungs.

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Fire Depts. everywhere are in immediate need of the "DAVY" Automatic FIRE ESCAPE. Sell one model to all fire depts., sell another model to hotels, etc. Write for dealer proposition.

DAVY AUTOMATIC FIRE ESCAPE CO.
COLVIN STATION BOX 51
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Canadian Dealer: Peedee Enterprises, Ltd., 934 St. Catherine St. E., Montreal, P. Q.

bers of the State Fire Advisory Board, Fire Chief Rudolph Swanson, Chairman, of the Bureau of Fire Mobilization, Division of Safety, participated in the ceremonies of launching the completed program and the awarding of certificates to all the instructor members of the Class.

Sessions were held at the Rochester Fire College at Rochester Arena. During the Course, visits were made to Rochester Fire Headquarters and on Thursday, January 20th, the delegates and members of the Advisory Board were guests of the Monroe County fire fighters at the headquarters of the Rochester Protectives, America's only volunteer salvage corps operating with a municipal fire department.

Correspondence

A "Professional Job"

To the Editor:

Knowing that the question is frequently raised as to whether a volunteer company is capable of doing a "professional job" or is competent to use modern scientific developments in fire fighting, it was suggested you might be interested in the details of a fire that occurred on Sunday, November 28, in our town where we have an all volunteer department.

We received the alarm about 4:00 P.M. and reached the scene of the fire, approximately one mile away, three minutes later, rolling in with a 1948 750 GPM Mack with a 300 gallon booster tank, and a 600 GPM Seagrave with an 85 gallon booster tank. Both these trucks are normally charged with wet water, but on this occassion, because of a series of drills we are holding with the Mack, it had only plain water in the tank, as we do not wish to waste the wet water on drills.

On arriving, we found a two story frame house heavily charged with smoke and tightly "buttoned up" except for the front door, which was open.

We immediately lined in with the booster line and a 1½-inch line from the Mack, which had located directly in front of the structure. Both lines were equipped with Rockwood fog nozzles. We normally operate at 100 pounds pressure. While some of the men started to ventilate by opening windows in the front of the house, the three men on the lines (two on the 1½-inch and one on the booster line) made their way toward the rear of the building where smoke seemed to be heaviest. Here they quickly traced the origin of the smoke to a room located behind the staircase, the door of which was closed.

When they opened the door, reflection of fire could be seen at the far end but heat and smoke were so intense that it was impossible to penetrate the room. It would have been possible to have broken the windows opposite the door by opening up the solid stream from the 1½-inch line and then having effected ventilation, "fogged" their way into the room; but instead, the men closed the door, laid down their lines, returned to the truck where each put on a Scott Air-Pak mask, then re-entered the building and with the protection afforded by the masks, were able to penetrate the room to a point where they could determine the exact location of the fire. This

proved to be a deep closet under the stairs with a door at right angles at the far end. This door was open and smoke and flames were coming out of the closet, the contents of which consisted of clothing, a trunk, a bundle of silk, a feather mattress and several cans of paint. The underside of the stairs as well as the walls and door of the closet were all involved.

The man on the 1½-inch line advanced as far as the heat would permit before opening up his line and then, under protection of the fog, he was able to penetrate right into the closet, knocking the fire down in about a minute. While this was being done, one of the other men was raising the windows in the room, while the third man went up to the second floor to check for possible fire extension and to ventilate the upper areas. Here he encountered a difficulty. All the windows on the upper floor had additional storm windows secured outside the regular windows. These windows could not be opened but had to be taken down completely. This was done in a novel and speedy manner. The man inside released the windows and let them fall and they were caught by other members of the company on the ground, outside. Not one storm window was broken.

While this was going on inside the house, the crew of the second truck had laid two hydrant lines from a nearby hydrant. One of these was connected to the intake of the Mack to provide a continuous water supply to the booster and 1½-inch line (a second 1½-inch line was hooked up and ready if needed) while the other hydrant line was laid to the building and held outside as a stand by line. This was never opened up nor was the booster line ever opened up.

The interesting point as we see it is this: There was plenty of water and plenty of manpower to have washed the house off its foundations if we had wanted to, yet the water actually used amounted to only about 50 gallons and water damage was confined to the closet area. There was enough smoke to have justified breaking every window in the house, yet not a pane of glass was broken.

Of course this kind of a job could not have been accomplished without gas masks and fog but give a volunteer company modern equipment and some training and I think you will find they can do a pretty good "professional" job.

SAMUEL R. FOSTER
Captain, Navesink, N. J.
Hook & Ladder Co., No. 1.

North Haverhill Department

To the Editor:

We have a small fire department of which we are pretty proud, serving a precinct of about 800 persons. The department was organized in 1938 and at that time the Precinct bought a ten-year-old truck with a small booster pump and 1,000 feet of hose.

We got along pretty well in areas where there were fire hydrants, but they started calling us for fires far and wide and when we would get there, all we could do was look on and watch the place burn. This also "burned us up." We decided to see if we could not get a new, modern fire truck.

The officials of precinct and town said

(*Continued on page* 147)

SAFE-T-BOWL *means* Safety!!

Bowling alley fires have taken a heavy toll in lives —Thousands have been injured, many severely —Property loss runs into millions of dollars!

To Chief Engineers, State Industrial Commissions, State Marshals, Fire Insurance Companies, and to all Code Commissions.

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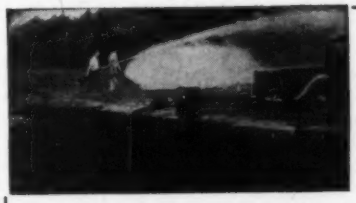
Perfection of A.B.C. Safe-T-Bowl Alley Coating and Thinner, non-flammable products listed by Underwriters' Laboratories, Inc., in a class between paraffine oil and kerosene.

Safe-T-Bowl Is a Powerful Fire Prevention Weapon; proven so through thorough laboratory and actual bowling alley tests.

For Further Information Write:

America's Best Coatings, Inc.
1632 N. 12th St., Milwaukee 5, Wis.



HALE TYPE FZZ

Ready-to-Use Portable for fighting fires 3 ways—solid stream, fog or foam. **Available in carrying frame, mounted on wheels or on rubber-cushioned steel channels.**

Hale Type FZZ Portable Pumping Unit pictured above is pumping fog and solid stream through 1½" lines. View at right shows unit pumping foam. Foam proportioner is available at slight extra cost.

The FZZ will supply from draft, 60 GPM at 90 lbs. pump pressure; and 150 GPM at 30 lbs. It can supply two capable fire streams through 1½" lines.

Write for FZZ folder to:

HALE FIRE PUMP COMPANY
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For Practical Discussion of Current Fire Department and Fire Management Problems

ALL YEAR 'ROUND FIREMEN'S TRAINING

THE discussion in this Round Table is a continuation of that which appeared in the January issue of FIRE ENGINEERING on firemen's training programs.

The generous response from our readers makes it necessary to carry the discussion over to this issue and to next month's as well.

Readers are invited to send in their comments on this subject to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Question

C. N. Penn, Chief, Dallas, Tex.: Our men are given outside training the year round except in extreme cold weather during the winter months. Inside training is given all the men nine months out of the year (the three summer months omitted). However, our recruits receive inside training 12 months of the year.

To improve training in the fire service, I believe one of the best ways is to encourage the men to want to learn all they can about their job. We have just concluded another series of our Incentive School with approximately 96 per cent of our entire personnel taking part. This is entirely voluntary on their part. The men are given $10.00 per month additional pay for receiving the training.

S. M. Franklin, Drillmaster, San Diego, Cal.: Members of the San Diego Fire Department are given outside training the year round.

They also receive inside training at all times during the year.

Two factors that are unquestionably doing much to improve training in the fire service are the increasing number of Fire Schools and Fire Colleges, and the ever-increasing scope of reference information on fire fighting problems and procedure. The Fire Service needs more of each.

We believe more fire training movies with sound to be a step in the right direction. For instance, pictorial "shots" of disastrous hotel fires, ship fires, tank fires, etc., could be combined with instructive comments on hazards, best extinguishing procedure, exposure coverage, and unusual fire fighting problems of each to form interesting and educational training material.

We believe it might also be possible for manufacturers to furnish with equipment sold to Fire Departments more information, diagrams, questions and answers, and experience notations relative to their equipment. And that this information could be in a form readily adaptable to Departmental Instruction and Training Manuals.

J. K. Piercey, Chief, Salt Lake City, Utah: Outdoor training is carried on throughout the year, the only exception being extremes of weather. This does hold outside drills to a minimum during the winter months.

Lectures and blackboard work are held the year around. Outdoor training and drill are greatly benefited by lecture and blackboard, followed by actual handling of equipment.

Municipal fire departments have been greatly handicapped due to lack of facilities for actual training on fires. While training under actual conditions in fire fighting presents some very unusual problems, practically all phases of our work could be simulated with the exception of large fires. The future will undoubtedly force a greater emphasis on training along fire protection engineering and fire prevention lines. The fire inspection and prevention duties of the ordinary firemen are growing in importance and must receive more attention in training programs in the future. One fault of many firemen training programs of the past has been to emphasize and compel complete book knowledge without training for practical and actual use. And, perhaps more important, to instill in the firemen confidence in what has been taught so it will be put to actual use.

With the amount of information a firemen must learn and be able to recall instantly and under stress, his knowledge and training must be as practical-factual and actual as it is possible to make it.

William H. Davis, Chief, Pittsburgh, Pa.: Outside training is given only when weather is suitable. Practically

HERE IS THE TOPIC

1. **Are your firemen given outside training and instruction the year round? If not, in what seasons of the year?**
2. **Do they also receive inside training, i.e., lectures and blackboard work, etc., the year round? If not, in what seasons of the year?**
3. **What do you think should be done to improve training in the fire service?**

all of the past Summer was devoted to one-week courses for pump men and acting pump men.

I believe that every city has its own peculiar problems concerning training improvement. Our (Pittsburgh's) most urgent need at the present time is a modern training tower.

Hoyt M. Ayers, Chief, Birmingham, Ala.: We have two drill masters with the rank of battalion chief who outline, prescribe, and coordinate all training and evolutions that are conducted at the stations. These drills and practices are held almost daily by company officers throughout the year. In fair weather, drills and special training are conducted at the drill tower by the drill masters.

A fire captain, particularly adept in fire theory, inspections, and instructing, holds classes at the different stations. He also coordinates class room studies. Each station has an average of five (5) hours a week of class room instructions and school. When classes are not held by the special instructor, they are held by the company officer.

One improvement that we could make in our drills is to have more training in actual fire fighting at the drill tower. A solid brick room, with windows and doors, would allow a controlled fire to be built inside. The men could then have more training in handling themselves and their work under smoke and heat conditions. If this building were extended to two stories or more, it would afford better practice in ventilation and salvage work.

Sidney L. Ulrich, Chief, Peoria, Ill.: We give outside training to our men during the months when the weather will permit. In winter we do not have this outside training. We do have some educational work from time to time throughout the year by way of films on fire fighting, drills, etc., however not near as much as we should have, and we hope to develop more along the lines of lecturers and class work.

I think it would be a big step forward if some standard training program and training material could be provided for use in all of our fire departments, in order that we would all be going down the street in the same manner and also together. This would also pay off in the event of an emergency such as civil defense or large disasters where outside aid has to move in and take over. On the other hand I do not mean to imply that the fire service should be nationalized, but we should all be doing the same thing in an agreed and approved manner and routine.

A. E. Condon, Chief, Vancouver, B. C.: The training and instruction of the members of the Vancouver Fire Department is in charge of a drill master and outside training is carried on five days per week the year round; the only exceptions being inclement weather or fire calls. The Drills are conducted by the hall captains, being organized and supervised by the drill master who is in complete authority. We have found that this is the only plan by which we can standardize all drill and fire evolutions.

Inside training, lectures, etc., are carried on the year round, more especially when weather does not permit outside drill. The assistant chief and

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The above towns have recently installed Circul-Air units or have ordered them for installation in new stations. Users from coast to coast say it's the best and most practical method of hose drying. Let Circul-Air do the job for you as it is for hundreds of cities and towns throughout the country.

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FIRE HOSE DRYER

- *Dries hose in a few hours*
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575 East Milwaukee Street
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drill master visit all halls periodically and examine the officers and men in all phases of their work. We believe this practice does a great deal to keep the members sharp and brings real talent to the surface.

We believe that visual education should be developed and a library of sound films built up. This program could well be Provincial or State-wide where the fire problems are similar. Also more regular conferences of fire officers where their mutual problems may be discussed and each benefit by the other's experience, should be held.

C. A. Hart, Chief, San Antonio, Tex.: The firemen of San Antonio are given outside and inside training the year round.

Certainly there is no fire service training school that is so complete in so far as instructors' equipment, facilities, and year round training with full cooperation of the chief and the entire personnel of the fire department is concerned, that cannot be improved from day to day.

The instructor of a fire service training school must be highly capable. He can improve training by first deciding to make teaching a career through application in study and practice. He should know thoroughly all subjects taught in the school and he should know the proper methods of teaching. Refresher courses for professional improvement should be taken. Much help can be derived from attending conferences, observations of fire schools, colleges, in the factory where equipment and supplies are produced. A training advisory agency or board that can ably assist in many of the problems should be created.

For further improvement, a training schedule should be prepared for company officers conducting school in engine houses. They should be assisted by the training school instructor in organizing the material used, i.e., courses of study, job and information sheets, blackboards, charts, opaque film strips, slides, motion pictures and other visual aids. Comfortable well-lighted temperature regulated, ventilated and equipped classrooms should be provided, as well as a library with a good supply of fire service reference books and engineering journals.

Psychology in life and work surely would be a valuable aid in the entire training program, developing personal attitudes, interest prospectives, getting along with each other, etc.

The training school should include spacious grounds made private by proper enclosures; buildings provided with complete outlay, modern equipment, facilities, and based on a long range program where the student or inservice fireman will receive his training, simulating everything possible. Means for those who want to try out or develop their own ideas after the regular school should be provided. This often promotes interest. Through this medium the fire service may be improved.

Improvements would be seen in having the company officers and men with apparatus come into the training grounds where all facilities are available. They would be safe from the hazards of traffic, instead of practicing on the street near the engine house as in many cases. A scheduled practice for engine and truck companies should be conducted by the instructor at the training grounds.

The whole program must be well disciplined and backed by the fire chief. All instructors must cooperate closely with the chief of department.

Henry G. Thomas, Chief, Hartford, Conn.: The training and instructional program of the Hartford Fire Department is under the full time supervision of a drillmaster, who is rated a deputy fire chief.

Outdoor instruction consists of evolutions and operations on both individual and company programs at the department training grounds, which has a ninety (90) foot tower, during the outdoor season, which usually runs from April to November.

During this same period and in the early morning hours, drivers and

Dallas Department Has New Drill Tower

The Dallas, Texas, Fire Department took possession of its new drill tower on December 29, 1948. The tower is located in a secluded section of the city, close by an unlimited supply of water. According to Fire Chief C. N. Penn of Dallas, the new set-up permits practical drill sessions in control and extinguishment of actual fires, as well as the normal fire department ladder, hose and other evolutions.

The tower is of open construction above the first floor; it is six stories (70 feet) in height, and constructed of steel and concrete. It is equipped with inside stairway, outside fire escape and standpipe with connections at each floor level.

pump operators are instructed and practice actual driving and pumper operation.

Throughout the year, drill work and instruction courses are carried on in all company stations. In addition to fire fighting strategy and use of all equipment, this inside training covers first aid and fire prevention. The fire prevention instruction teaches the fireman inspector (all Officers and men do building inspection within their company district) something of building construction, ways and means of egress and private fire protection equipment and devices.

Conferences of officers are held periodically, at which time recent fires are discussed, the objective being to correct any sins of omission or commission. Methods of firemen training throughout the country and in our own department are constantly being improved.

To raise the level of the fire protection profession, it is my opinion that future training programs on a Statewide basis, preferably at some central location within the State and with financial assistance from the State are desirable.

Future training programs should more definitely provide for officer training courses.

The efficiency of any fire company is about as good as the company command Officers and their training certainly should not be neglected or left to some hit-or-miss program.

Terence Mulligan, Chief, Sacramento, Cal.: A regular outside training program is given all men in the department. For new men a 3 year program is carried on—teaching of foundations in handling of lines, ladder work and ventilation. The older men in the department are given refresher work in the above named. This work is under the direction of two assistant directors of training (Captains) who in turn are under the Director of Training (Batt. Chief).

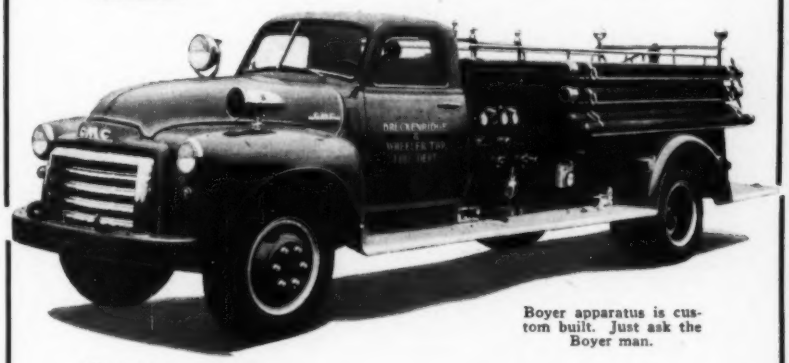
Regular indoor work is given usually during bad weather involving Mask, Occupancies in the residential district, business district and Industrial installations. Location of hydrants and a study of first aid and resuscitation work.

A constant check is kept of new methods and equipment as recommended by the Board of Fire Underwriters.

Frank S. Sandeman, Chief, Long Beach, Cal.: The Long Beach Fire Department maintains its own Bureau of Instruction under the supervision of the drillmaster. His responsibility is the training of all members of the department. Under the supervision of the drillmaster is a detailed captain who assists in carrying out the training program. In 1947 all members of the fire fighting force were detailed to a fire school of one of the major oil companies at their training ground for instruction on the control and extinguishment of flammable liquid fires. Both platoons of each company, of which there are sixteen, attended this school. At the present time each officer of the department is attending a class of administration conducted by a teacher of the Junior College. We continue out-of-doors instruction in hose laying and ladder evolutions the year round, except in inclement weather.

Custom Built by BOYER

Here is a 3 stage Boyer-Hale pumper Model HPZL—high and low pressure combination with a 500 gallon rear fill tank. The booster reels and hose are recessed in the body located above the pump sheltered from extreme cold. Breckenridge and Wheeler Townships in Michigan are now equipped with fire fighting apparatus that reflects the ultimate in advanced design and performance.



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PENETRATES CREVICES—completely blankets wide area.

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NON-TOXIC, NON-CORROSIVE — harmless to everything but fire—including food.

SAFE ON ELECTRICAL FIRES—non-conductive.

FAN SHAPED NOZZLE — ejects flat stream; screens off flame from burning material; safeguards operator.

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Protects the operator as it kills the fire.

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Our entire fire fighting force receives inside training, lectures, and blackboard work the year round. This consists of fire problems, district drills, first aid, and the drawing of maps of the various districts, as well as other drill evolutions which may be carried on inside the stations.

Actual fire fighting drills should, if possible, be practiced by fire departments, using hose lays both at ground level as well as above ground. This involves the use of an adequate tower which is isolated from built-up communities.

A good inspection program to supplement the work done by the fire prevention bureau is always good practice. Individual members of companies may be detailed out on inspection, bringing back to the Company Commander vital information concerning "first in" hazards. Whole companies may do inspection work and still remain in service via radio. Data secured on inspection may be used for "fire problems" as required by the officer in charge. This material always provides sufficient ideas for inside drills during inclement weather.

Our new fire inspection plan has been in practice approximately six months and has proved very satisfactory, judging from favorable comments we have received from businessmen and other interested parties who have been the subjects of such inspections.

Paul P. Heinz, Chief, New Haven, Conn.: The New Haven Department provides outside training on a "Learn-by-Doing" basis about nine months out of the year.

The aim of our instruction plan is to try and make our men experts in the profession by providing for them, on a practical idea, as much as we can of the actual fire conditions they will be called upon to face in the performance of their duties.

The men also received the inside or class-room lectures, on hydraulics, hose and ladder evolutions, etc. During the winter months we have company sessions in the stations. Motion pictures on new appliances and devices are also shown.

We advocate and recommend greater emphasis on the "Learn-by-Doing" idea of training.

John C. Cost, Chief Engineer, Philadelphia, Pa.: At the present time we have over 1200 members of this Bureau who have completed a course in fire fighting at the Philadelphia Naval Base. This course emphasized the various uses to which fog nozzles have been and still are being put. This knowledge was gained from actual experiences aboard carriers, tankers, etc., by the Naval Authorities during the past World War. These courses will continue, with permission of the Naval Authorities, until every member of the Bureau of Fire has been instructed.

In addition, the officers of this Bureau were instructed through evening courses at the Engineering Institute of this City, relative to refrigeration units, how to shut off the various types of units, etc.

Every company has station exercises each day.

Relative to Question No. 3, constant practical and theoretical instructions should be available for all personnel

BOOKS
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For progressive fire chiefs interested in up-to-date fire-fighting methods, the "Fire Chief's Handbook" will be a mighty valuable reference guide. It gives to ambitious fire department officers and men, in plain, understandable form, information that should prove extremely helpful in preparing for promotional examinations.

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To fire chiefs and other officials responsible for preparing examinations, this book will be found most helpful. And it is a mighty good reason, too, why fire officers and men should find it of inestimable value in studying for advancement. Covers in 48 chapter lessons most of the important phases of fire protection promotional study — mainly in questions and answers form. **Price $3.00 Postpaid**

QUESTIONS and ANSWERS FOR LIEUTENANT and CAPTAIN

Includes chapters on Report Writing How to Answer Examination Questions, Chemistry Examination Questions, Fire-Fighting Questions, Overhauling, Ventilation, Fire Prevention, Inspection, Evolutions, Drills, Use of Apparatus, Rescue Work, and in fact all the topics covered by the fire department promotional examinations.

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24 West 40th St., New York 18, N. Y.

relative to new equipment, hazards, methods of extinguishing, etc.

For your personal information, this Bureau has placed in service today a new Rescue Squad, which brings the total of Squads to three. We have also just placed in service a new Fire Company at the Philadelphia International Airport. In addition, during the latter part of 1948 a new Diesel operated Fire Boat was purchased and placed in service. This Boat has all the latest equipment necessary to combat fires and the difference in saving on fuel oil alone, in comparison with the old Boats, is such that it warrants favorable mention.

Joseph A. Kirby, Chief, Dayton, Ohio: If the weather is favorable, outside training is given from April 1st to December 1st. Inside training is given the year round.

To improve training in the fire service, I believe it should be made interesting and not boresome. Monotony discourages anything in school work, training, drilling, or what have you.

C. A. Middlekauf, Chief, Houston, Tex.: Weather permitting, outside training is given the year round, with inside training being given in bad weather.

I believe the best way to improve training in the fire service would be to have training officers sent to State College to be trained in fire courses.

H. D. Demonbreun, Chief, Nashville, Tenn.: Our men have outside training, Spring, Summer and early Fall. When the weather gets cold and bad they have lectures and inside training which includes salvage work, blackboard work and discussions relative to alarm boxes, hydrants, streets, buildings, etc., in their own territory.

I think it would be well to have firemen do more actual fire fighting by having them extinguish different fires with the type of extinguishing agent that should be used, similar to what the U. S. Navy did during the last war.

C. W. Brown, Chief, Wichita, Kans.: Outside training is given here each day except Saturdays, Sundays and holidays, from May 1 to September 1, and sometimes later, depending upon the weather.

Inside training is given the year around with the exception of Saturdays, Sundays and Holidays.

For improved fire service training, I would advocate:

(a) More use made of visual aids, especially slide films and movies. We need a national lending library of training film.

(b) More training by doing, i.e., actual fires on the drill yard and in the training tower.

(c) Specialized training for officer candidates.

(d) An officers training school.

Correspondence

(*Continued from page* 140)

they could not do it because of cost. We finally made a trade with the precinct that we would buy the truck and give it to them if the latter would give us what it earned outside.

We ordered a new truck in March, 1946, which was going to cost us $5,900, and which included a 500 gallon centrifugal pump, two-stage, parallel series. When this equipment was delivered in

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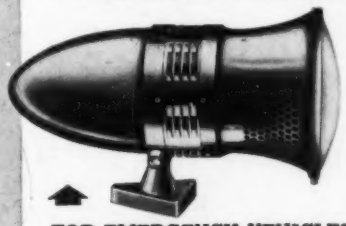

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January, the price had gone to $8,000. However, the company kept to the contract and we saved $2,100 by ordering when we did in March.

We didn't have all the money to pay for our truck when it arrived, so the precinct paid the balance. We are paying them off as we earn the money. At present we owe about $1,500 on it. We hold dances every Saturday night which gives us a little every week; also we ran a raffle last fall which netted us about $1,100.

We have also greatly improved our fire station. If any of the small departments around the country want our recipe, we would be glad to help them out. We found there is always a way to do things if you want them done bad enough.

LAWRENCE E. SMITH
North Haverhill, N. H.

Estimating Pump Pressure

To the Editor:

Everyone knows that an officer or a pump operator doesn't have time to do much figuring at a fire, but no one does anything about it. I am sending you this account of a method of estimating necessary pump pressure to furnish a working stream. It is the simplest system I have ever seen and is accurate enough for all practical purposes.

First, forget about nozzle pressure; remember working pressure. It doesn't make much difference what the nozzle pressure is as long as the stream serves the purpose.

For a 2½-inch leader line, with 150 foot of 1½-inch hose, for 800 feet or less, use 100 pounds pump pressure; for over 800 feet, use 150 pounds pump pressure. This will furnish a working stream through a ½-inch tip.

Next memorize this table:

1"	200 gallons
1⅛"	250 "
1¼"	300 "
1⅜"	500 "
1½"	600 "
1⅝"	700 "
1¾"	800 "
1⅞"	900 "
2"	1,000 "

Then memorize this:

200 gallons gives 10 pounds loss per 100 feet of 2½-inch line.

250 gallons gives 15 pounds loss per 100 feet of 2½-inch line.

300 gallons gives 20 pounds loss per 100 feet of 2½-inch line.

Now to use this, simply divide the gallons discharge by the number of lines laid into the tip, to get the number of gallons carried by one line.

For example, assume three lines, each 400 feet long, laid into a monitor with a 1⅝-inch tip.

A 1⅝-inch tip discharges 700 gallons per minute. Three lines mean that each line will carry 233 gallons which gives close to 15 pounds loss for each 100 feet. Four hundred feet gives 60 pounds for friction loss and 90 pounds for nozzle pressure and other losses and you get 150 pounds pump pressure required.

Use the 90 pounds for all tips over 1¼ inches.

Use 50 pounds for all tips 1¼ inches and under.

A little practice with this will enable you to estimate any layout within a few pounds. The table is simple to remember. A mistake of 25 pounds in pump pressure will not make a sizable difference in nozzle pressure. Most of the increase or decrease will be used in friction loss. Remember, too, that many times a high nozzle pressure is dangerous. When using a line from a ladder, or on a roof, 40 to 50 pounds is plenty; higher pressures are dangerous and too hard to handle. When using deluge sets, monitors and other appliances with larger tips, higher pressures are in order because a longer reach is usually desired.

Yours very truly,
LEO WENNER
Captain, Seattle, Wash., Fire Department

New Trends in Hay Storage

To the Editor:

While out through the West—Iowa and Minnesota—last year I heard a question discussed that was interesting from the standpoint of rural fires. I talked to a couple of large acreage farmers and was told that a good many farmers are baling all their hay, small bales, tying them up with a twine a little heavier than binding twine. They find they save a lot of work, can put more hay away in small area and it is easier handling for feeding.

The thought in my mind is that they should have less spontaneous ignition fires. At one time through Iowa the farmers did not put their clover hay in the barn but stacked it nearby; they were afraid of the attraction for lightning. If the baling of hay will help, it would seem to be that this should be a universal practice and might save lots of property. Of course, with loose hay in the mow, if there is a small fire in a barn, nothing can stop it, although I suppose water wetters might help some if used in time.

Very truly yours,
C. D. BARCLAY
Worcester, New York

Ambitious Training Plan for Mascot

To the Editor:

Herewith is a picture of the new mascot for the Massillon, Ohio, Fire Department.

Massillon's New Fire Department Mascot

For some years the Fire Department has been looking for a suitable mascot that would be young enough to train and still of the right nature that it would not be mean to children.

About one month ago Roy Getz of the Getz Taxicab Co., of this city, pre-

sented this Dalmatian to the Fire Department, which at the time was nine weeks old.

She has become very popular with the boys and rides on every run. In fact, she cries if she doesn't get to go along. On the first night alarm she was standing in the doorway of the alarm office whining while the bells were ringing.

The boys dream of training her for a good purpose, and that will be to go in under smoke conditions, looking for trapped victims and locating same by barking and leading rescuers to trapped victims, or leading victims to outside. There are many fine uses she can be trained to fill.

We are holding a radio quiz to name her and the boy or girl naming her will receive a two-mile ride on the fire truck.

Two firemen, one on each shift, have been assigned to train and teach her. They are Arvine Ricosky and Charles Snyder who have been assigned to No. 1 Fire Station.

We believe this is the first dog fire fighter on regular duty in Ohio.

Very truly yours,
RAY H. EARLE
Chief, Massillon, Ohio

Carbon Tet'

(*Continued from page* 116)

It is disclosed that carbon tetrachloride is a solvent for some plastic materials such as Polystyrene, hence the use of such material in plastic funnels for filling pump type extinguishers is undesirable.

Plastic materials used for funnel manufacture, if of the thermosetting type such as Urea (Beetleware), Phenolic (Bakelite) or the polyethylene thermoplastic types (Nylon), will prove entirely satisfactory, it is said.

The author of this finding advised that in view of the above, caution should be exercised in making certain that the funnel used, if plastic, is not affected by a solvent action prior to its actual filling of the extinguisher. He suggests that if in doubt, a glass or metal funnel be used. J. H. J.

Book Shelf

FIRE BRIGADES AND SALVAGE CORPS OF GREAT BRITAIN, 1947-48—Published by Hodgetts Ltd., proprietors of "FIRE," at 72-78 Fleet Street, London, E. C. 4, England. Price 7s. 6d, post paid.

This useful little work of reference consists of extracts from the records of FIRE, official journal of the British Fire Service. It includes a roster of Chief Officers and Fire Masters in municipalities in England, Scotland and Northern Ireland, together with a list of apparatus and equipment in each department.

* * *

TENTATIVE STANDARDS OF HYDRAULIC INSTITUTE, PIPE FRICTION: 82 pages with numerous tables and charts; published by Hydraulic Institute, 90 West Street, New York 6, N. Y. $1.50 per copy postage paid.

This book presents the results of an investigation undertaken during 1946-47 to revise the Pipe Friction data formerly contained in the Institute's Data Section Standards.

The volume contains tables for friction loss for water in pipes from ⅛-inch to 84-inch diameter, as well as in valves

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and fittings; charts of friction loss for any fluid; friction factors; use of tables for water friction; use of charts for friction loss of other fluids; use of friction factor diagrams; viscosity of fluids, etc. This publication should prove of great value to engineers who have occasion to compute hydraulic problems involving pipe lines of any size.

Annual Reports Received

Iowa's Fire Losses Up in 1947

Iowa's fire losses for 1947 reached a high point of $8,297,073, the highest since 1931, according to the 37th Annual Report of the State Fire Marshal, John W. Strohm. There were only 59 more fires reported in 1947 than in 1946 yet the fire loss amounted to $1,947,093 more than in 1946.

The report, like its predecessors, contains a wealth of factual information on the state's fire protection and fire prevention operations, the losses, causes of fires, kind of property destroyed, location of fires together with numerous safty hints and recommendations.

* * *

Dominion Association Proceedings

The Proceedings of the 39th Annual Convention of the Dominion Association of Fire Chiefs (Aug. 12-15, 1947) is an elaborate publication of 160 pages ring bound. It details the doings of the Convention held at London, Ont., including the several papers delivered by the lecturers during the business sessions.

* * *

Year Book of the Northwestern Ohio Volunteer Firemen's Association

The Year Book of the Northwestern Ohio Volunteer Firemen's Association is devoted largely to the organization's 73rd Annual Convention held at Bryan, Ohio, June 16, 1948. It contains also the report of the proceedings of the 1947 convention held at Napoleon, Ohio, June 18.

Officers of the N.W.O.V.F.A. are Chief Walter McFadden, Bryan, O., president; E. V. Austermiller, Napoleon, vice-president; Earl Campbell, Napoleon, secretary; O. H. Rubel, Bryan, assistant secretary; Frank Ottney, Gibsonburg, treasurer, and J. W. Fisher, Columbus, historian.

* * *

Tacoma, Wash., 59th Annual Report

According to the 59th Annual Report of the Tacoma, Wash., Fire Department, Fire Chief C. J. Eisenbacher, the department in 1947 answered 2,510 alarms, of which 172 were false. During the year, fire department apparatus traveled over 14,000 miles in answering alarms.

Among Chief Eisenbacher's recommended improvements are: more firemen to adequately staff stations; addition of a ladder company; equipping of a new fire house with apparatus and men; erection of a modern drill tower; addition of three new fire stations and a new headquarters, together with a suitable fire alarm repair, storage and garage building; re-location of the fireboat; addition of an emergency unit; more fire alarm operators and fire alarm boxes.

During the year the department pur-

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They've been doing so for more than three-quarters of a century. That's because its scientifically controlled construction assures lightness and flexibility. More, it assures high burst-resistance and extra durability.

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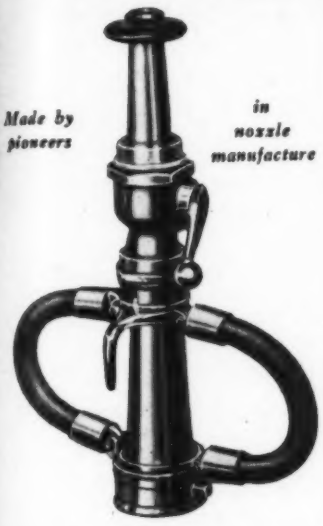

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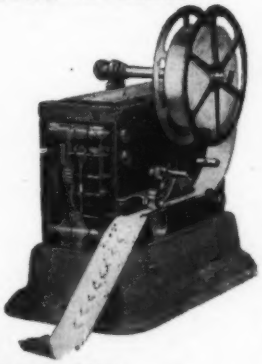

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FIRE ALARM RECORDS

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chased 16 two-way radios for department apparatus and installed a new radio transmitter station. It is interesting to note, also, that the Tacoma department has installed a sound scriber at fire alarm headquarters and uses aluminum pompier ladders, navy type oxygen breathing equipment, and fog cellar nozzles.

Convention Dates

Mar. 4-5—ASSOCIATION FOR FORMER U. S. NAVY, COAST GUARD AND MARINE CORPS FIREFIGHTERS, DISTRICT No. 1. Annual meeting, 40 and 8 Hall, 421 N. Pennsylvania St., Indianapolis, Ind. Vice-President, William Yunger, 1706 North Narragansett, Chicago, Ill.

May 5-7—KANSAS STATE FIREMEN'S ASSOCIATION. Annual meeting, Emporia, Kans. Secretary, Loren R. Bass, 3000 West 18th Street, Topeka, Kans.

May 9-12—ASSOCIATION OF CANADIAN FIRE MARSHALS and DOMINION FIRE PREVENTION ASSOCIATION. Annual meeting, Regina, Sask. For information contact W. L. Clairmont, Dominion Fire Commissioner, Ottawa, Ont.

May 16-19—NATIONAL FIRE PROTECTION ASSOCIATION. Annual meeting, San Francisco, Cal. General Manager, Percy Bugbee, 60 Batterymarch Street, Boston, Mass.

May 23-27—ARSON INVESTIGATORS' SEMINAR. Annual meeting, Purdue University, Lafayette, Ind. Director, Professor J. L. Lingo, Public Safety Institute, Purdue University, Lafayette, Ind.

June 5-8—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. Annual meeting, Syracuse, N. Y. Secretary-Treasurer, Chief Henry F. Drake, Clinton Corners, N. Y.

June 14-17—ILLINOIS FIRE COLLEGE. Annual meeting, University of Illinois, Champaign-Urbana, Ill. Secretary, Chief Roy Alsip, Fire Headquarters, Champaign, Ill.

June 22-24—MARYLAND STATE FIREMEN'S ASSOCIATION. Annual meeting, Ocean City, Md. Secretary, B. R. Benson, III, 303 Bosley Avenue, Towson 4, Md.

June 23-25—MISSOURI VALLEY ASSOCIATION OF FIRE CHIEFS. Annual meeting, Fort Collins, Col. Secretary, Chief Ray Tiller, Fire Headquarters, Waterloo, Ia.

July 21-23—ASSOCIATION FOR FORMER U. S. NAVY, COAST GUARD AND MARINE CORPS FIRE FIGHTERS. Annual meeting, Franklin Legion Hall, High Street, Columbus, Ohio. Secretary-Treasurer, William J. Mignery, R. No. 5, Elkhart, Ind.

August 20—BALTIMORE COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Maryland, Line, Md. Secretary, W. A. Chenoweth, 4104 Milford Mill Road, Pikesville 8, Md.

Aug. 29-Sept. 1—DOMINION ASSOCIATION OF FIRE CHIEFS. Annual meeting, Ottawa, Ont. Secretary, Chief Allan H. Clark, Fire Headquarters, Lakefield, Ont.

Sept. 27-30—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting, New Orleans, La. Secretary-Treasurer, Chief Daniel B. Tierney, 8 Robbins Road, Arlington 74, Mass.

Oct. 4-6—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. Annual meeting, Greensburg, Pa. Secretary, Chief Charles E. Clark, Box 271, Wayne, Pa.

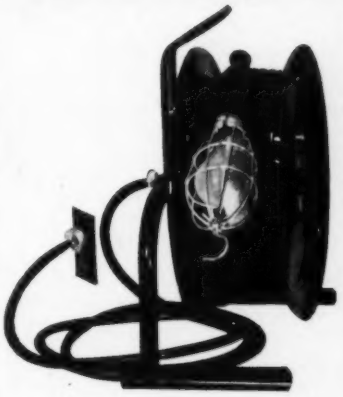
SEND IN YOUR MEETING DATES

As a service to its readers FIRE ENGINEERING endeavors to maintain an up-to-date list of all county, state, regional and national organizations and associations in the fire service, and the dates on which their annual conventions are to be held.

Officers of associations are invited to forward the editors, at the earliest opportunity, the roster of association officers, and the dates (actual or approximate) on which conventions are scheduled.

This information will be listed under the heading "Convention Dates."

EDWARDS



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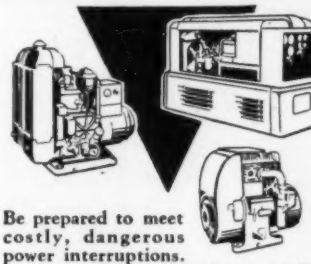
Power Failure Insurance!
FAIRBANKS-MORSE
GENERATING SETS



Be prepared to meet costly, dangerous power interruptions. Fairbanks-Morse generating sets deliver the power you need indefinitely. Available in A.C., D.C. or A.C.-D.C. . . . with manual, remote or automatic controls, in capacities from 350 to 35,000 watts. See your Fairbanks-Morse dealer or mail the coupon today.

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Fairbanks, Morse & Co.
600 S. Michigan Ave., Chicago 5, Illinois
Gentlemen: Please send complete information about generating sets for standby service.
Firm Name.....
Address.....RD.....
City.....State.....
88-2

AVOID DELAYS — CARCO SIGNS — Make It Possible to Have Right of Way When Responding to a Fire Call

Actual Size 10"x3½"

These signs are made of baked Porcelain Enamel on an 18 gauge steel plate

With each purchase of 10 sets, a set of "Fire Chief" or "Asst. Chief" signs will be enclosed at No Charge.

WRITE US FOR ADDITIONAL INFORMATION

CAPITAL FIRE EQUIPMENT COMPANY
1014-20th St., Box 1775 — Sacramento, California

BAR-WAY
HOSE COUPLINGS
U. S. PATENT 2367447
for
HIGH PRESSURE
FOG lines
Approved By
UNDERWRITERS LABORATORIES
Streamlined
Full Flow
High Pressure
Accurately Machined
Internal Expansion
Remountable
"ON THE ENDS—IN THE END"
IT'S BAR-WAYS
BAR-WAY MFG. CO.
STAMFORD • CONNECTICUT

Classified Advertisements

"For Sale," "Proposal" and "Wanted" advertising $6 per inch insertion less 10% for three or more consecutive insertions.

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6" Sealed-Beam, Portable, Search Lights. Rechargeable with 4, Non-Spill, 2-Volt Wet Batteries. Visible Charge Floats. Adjustable. Long Life. Top Candle Power. 1 Mile Beam. Unused. Heavy Duty Surplus @ $18.50 Complete. (Batteries Shipped Dry). Extra Set of 4 Batteries for Standby Charge @ $9.00 Set.

ALSO

Full Coverage Asbestos Fire Suits..... @	$8.50
1½" S.J. Hose, 50' NST Unused..... @	$12.50
1½" D.J. Hose, 50' IPT Unused..... @	$18.00
1½" D.J. Hose, 50' NST or PCT..... @	$19.50
2½" S.J. Hose, 50' NST Unused..... @	$25.00
1½" Fog Nozzle & 10' Applicator..... @	$14.50
2½" Fog Nozzle & 12' Applicator..... @	$19.50
Siamese Y Valve, 2½" to Pr. 1¼"... @	$9.00
1½" Foam Nozzle & Pick-Up Tube... @	$11.50
1½" Linen Hose, 50' IPT Unused.... @	$10.00
1½" D.J. Couplings, Brass IPT..... @	$1.50

All Fire Hose Is Surplus—Coupled, White, Soft.

Many other items at 25% of list. Write us.

HALPRIN SUPPLY CO.
"THE" Dealer in Surplus Fire Equipment
837 East 4th Place, Los Angeles 13, Calif.

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1927 Childs Foamite 600-gallon pumper equipped with 200 gallon booster tank and all other standard equipment. Ladders, Suction, Etc.

Can be seen at Old Forge, New York Fire House. Reasonable price.

TOWN OF WEBB FIRE DISTRICT
Mr. A. E. Eyre, Secretary
Old Forge, New York

FOR SALE

Seagrave — 600 Gal. Pumper with 1100 Gal. Deck Pipe. Good condition. Ideal spare apparatus for small village. Contact:

VILLAGE CLERK
NYACK, N. Y.

FOR SALE

Palm Fiber Fire Broom. The Best "Fire Fighter" for Field Fires. Selected for its flexing and fire resisting qualities. Metal bound at head. Unexcelled for sweeping field fires. Made by the makers of the original fire broom. No. 62F Palm Fibre Fire Broom in lots of six or more, each $1.50. S. Ervin Diehl, Jr., 1229 N. Second Street, Philadelphia 22, Pa.

EXTINGUISHERS—HOSES—PARTS

Carbon dioxide unused surplus hoses, 15-lb. 36" long ¾" x ¾" IPT female brass couplings; sample $2, dozen $20, postpaid.

Carbon dioxide transfer pump, with 1 HP AC 115-230V motor $207 fob. (unused surplus).

Write for free list of surplus items.

FIRE EXTINGUISHER SALES & SERVICE CO.
98 Vermont Ave., Newark 6, New Jersey

WANTED

Pictures or Negatives of Horse Drawn and Modern Fire Apparatus.

Also, some of fires, showing fire apparatus in action with streams from deck pipes, Water Towers and Hook & Ladder Trucks.

B. J. STEVENS
164 Seaview Ave., Jersey City 5, N. J.

HOSE BRIDGES

Made of Steel, Guaranteed to hold up 15/20 ton, two line, only $65.00 a pair.

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MANUFACTURER'S DEMONSTRATOR

850-GALLON TANK
200 G.P.M. HALE PUMP
F-6 FORD CHASSIS 1100 MILES

400 ft. booster hose, 2 reels, 4 extinguishers, Duo Aluminum extension ladder, 2 Duo roof ladders, Federal #67 Siren, 2 ceiling hooks, 4 combination Fog nozzles, Siamese, Axes, Crowbar, 2 spot, 2 hand and 2 loading lights, 100 cubic feet storage space.

Complete, ready to work, suitable for Rural Community, Manufacturing Plant, Refinery or Airport.

A complete set of pictures upon request. Price $7000.

R. L. WIGGINS
R.D 3, West Chester, Pa.

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To sell Fire Trucks and Supplies in Rockland, Westchester, Orange, Putnam, Ulster, Dutchess, Sullivan Counties. Commission basis, and we are making deliveries in 60 to 90 days on pumpers, 1, 2 or 3 stage. Also need men for the Western Portion of New York State. Full Time men only. Give qualifications. Write to Box 45, c/o FIRE ENGINEERING, 24 West 40th St., New York 18, N. Y.

FIRE EQUIPMENT — FOR SALE

Save from 50% to 97%
Top Brand Unused Stock in original crates

	Factory Price	Our Price
2# CO_2 Extinguishers.....	$22.00	$11.75
100# CO_2 Extinguishers....	$385.00	$165.00
2½ gal. Extinguishers.....	$26.00	$10.25
Ventilating Hose—8" x 15'..	$11.75	$4.25
Linen Fire Hose 1½" x 25'.	$10.50	$4.75
Liquid Foam Nozzles, with 2 gal. Hip Pack & Syphon tube	$65.00	$18.50
Foam Pressure proportioner.	$385.00	$52.50
Foam Accumulators	$720.00	$21.00
Foam Nozzles, flexible.....	$67.00	$13.50
Fog Nozzles—Electric Lanterns—Hose Wall Reels—Heat Thermal Units, etc.		

Top Brand — Used — Like New — Satisfaction Guaranteed

300# CO_2—two wheel Trailer Extinguisher Units, with 6-50# cyl.—100' Hose—5' Nozzle— 4 portable Extinguishers	$1494.00	$724.00
40 gal. Foam Extinguisher, Wheeled	$562.00	$162.00
15# CO_2 Extinguisher's, squeeze grip	$55.00	$28.50
15# CO_2 Extinguisher, wheel valve	$55.00	$20.50
50# CO_2 Extinguisher cyl..	$70.00	$38.50
150# Dry Ice Converters...	$187.00	$115.00
Oxygen Breathing Masks....	$141.00	$37.50
Liquid Foam 5 gal. cans...	$22.00	$5.25

Numerous other items in stock
Quantity Discounts Given
Write for full particulars

ABSOLUTE FIRE PROTECTION COMPANY
1081 Arlington Ave., Plainfield, N. J.

Classified Advertisements

FOR SALE

Fire Pumping Units—Trailer mounted, perfect condition. 500 Gal. per minute, $800, all complete with Suction hose.

2½ x 4½ Gates—N. S.	$6.00
Double males—N. S.	2.00
2½ Nozzles—N. S.	2.00
2½ x 2½ x 2¼—N. S.	2.50
1½ Fog or Spray Tips—N. S.	1.50
2½ x 2½ x 2½ Clapper valves, N. S.	3.50
Adjustable Hydrant Wrenches	2.00
14 ft. roof ladders	20.00
Hose Straps	1.25
Spanner wrenches	0.25

All the above in stock and immediate shipments can be made

FRANK SHORTNER - Edgar, Wisconsin

FOR SALE

1—1930 American-LaFrance Fire Truck
500 Rotary Pumper
Good condition

BRENTWOOD VOLUNTEER FIRE DEPARTMENT, INC.
Brentwood, Maryland

PUMPER TO SELL

1921 Seagrave Pumper 750-Gallon with four-gate discharge—in usable condition. Write to:

JOHN K. GOLDSWER—BOROUGH CLERK
Carlstadt, New Jersey

FOR SALE

LaSalle Meteor Ambulance 1937 model. In excellent condition. FRIENDSHIP FIRE CO., Linwood, Pa.

WANTED

Fire Equipment Dealers to sell Morning Pride Rubber and Canvas Rubber Fabric Fire Coats and Fire Pants, All Wool Detachable Liner, Mitts and Suspenders.

Write today MORNING PRIDE MFG. CO., 1986 Home Ave., Dayton 7, Ohio.

FOR SALE—TANK TRUCK

1937 Federal Chassis, 200 G.P.M midship pump, 1100 gallon booster tank, 30' of 3½" hand suction, extension and roof ladders, booster hose, extinguishers, lights, etc., truck now in service. Full particulars and photographs upon request.

WOODBRIDGE VOLUNTEER FIRE ASSOCIATION, INC.
Woodbridge, Conn.

POSITION WANTED

Fire Chief, 30 years' experience in fire fighting, fire prevention, and fire control, also in organization and training. Would consider any worthwhile offer as chief of municipal department. Under 50—good reference. Write to Box 50, c/o FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

WANTED

Dealer—Distributors to sell fire apparatus manufactured by well-known Factory. Also popular line of high grade fire hose. Prompt Delivery. Attractive proposition. Address Box 15, c/o FIRE ENGINEERING, 24 West 40th St., New York 18, N. Y.

FIRE TRUCK FOR SALE

1942 Ford, Maxim assembly. 300 gpm Champion pump, 300 gallon tank, hose compartment, two booster hoses, ladder-rack, hand extinguishers. For details, write to:

J. F. WERNICKE
P. O. Box 1504, Pensacola, Florida

FOR SALE

1933 Emergency Truck — Diamond T. Fully equipped with Koehler Generator, Food Lights, etc. Contact:

VILLAGE CLERK
NYACK, N. Y.

BOOK WANTED

A collector of firemanic books is anxious to procure a copy of "The Volunteer Fire Company" by Brinckloe, originally published in 1934. Willing to pay a fair price. Please write to Box 60, c/o FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

FOR SALE

New York State Only. NEW—500 GPM 2 and 3 stage pumpers, Pressures guaranteed to 700 pounds, twin booster reels, 300 to 500 gal. tanks, divided body, duralumin ladders, on F-7 Fords, 2 Ton Chev., GMC, February, March and April Deliveries guaranteed. Also 800, 1000, 1200 Gal. Tankers, with single, 2 or 3 stage pumps. Write to Box 30, c/o FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

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Our turnout suits are giving excellent satisfaction in most of the large fire departments throughout the U. S. and

THERE MUST BE A REASON WHY SO MANY FIREMEN INSIST ON JANESVILLE QUALITY

NOW AVAILABLE

We can now supply old type ¾ Length and Knee Length Felt-lined Firemen's Boots.

JANESVILLE APPAREL CO.
JANESVILLE, WIS.

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That's Why Fire Fighters Prefer ACME Full-Vision FD Gas Masks

No other gas mask gives you the unobstructed, full vision of the Acme FD Gas Mask. You can see as well as without a mask—up, down and to either side. There are no unseen hazards to worry about. This means greater protection. That's why it will pay you to specify Acme FD Gas Masks. Seeing is believing.

Write for bulletin.

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3037 West Lake Street, Chicago 12, Illinois

SPECIAL BINDERS AVAILABLE AGAIN

Every issue of FIRE ENGINEERING has something you may want for future reference. With one of these standard handy binders, you will have every article at your fingertips and a complete index of everything published during the year. The binder holds 24 issues and two yearly indexes. **Price $2.50**

BOOK DEPT.
CASE-SHEPPERD-MANN PUBLISHING CORP.
24 WEST 40th STREET, NEW YORK 18, N. Y.

"OKAY! All we need are some

INDIAN FIRE PUMPS"

That's the call you hear so often at all kinds of fires—on roofs, in partitions, in homes and buildings and grass and rubbish fires. It means the job can be handled in a few minutes with a few men and a few **INDIANS.** Clean water alone will do the work or you may use "water wetting" penetrant agents which do not harm the inside of the tanks.

Ask a fireman or forester who has used the **INDIAN** and see how much he values it. Order **NOW** and be prepared for the fire season. Send for catalog telling all about **INDIAN FIRE PUMPS.**

INDIAN FIRE PUMPS are available with Armco zinc grip steel tanks which are coated inside with asphaltic base paint or solid brass or chrome plated tanks.

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CANADIAN AGENTS:

Duke Equipment Co.
297 Duke St.
Montreal 5, Canada

Fleck Bros. Ltd.
110 Alexander St.
Vancouver, B. C., Canada

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BOSTON

Shown above is one of seven 85′ Pirsch Hydro-Mechanical Tractor-Trailer Aerial Ladder Trucks ordered by the City of Boston.

Among the famous colonial buildings under the protection of the Boston Fire Department is historic Faneuil Hall, originally built (1740-1742) by Peter Faneuil, a Boston merchant. It was nearly destroyed by fire in 1761; rebuilt in 1763, and enlarged in 1805. In it were held many meetings of the Revolutionary Patriots, whence the name "Cradle of American Liberty."

PETER PIRSCH & SONS CO. KENOSHA, WIS.

"BUILDERS OF AMERICA'S FIRST ALL-POWERED AERIAL LADDER TRUCK AND AMERICA'S FIRST 100′ AERIAL LADDER"

4 DRIVING WHEELS Get your FWDs to the Fire Regardless of Road • • Weather • • Location!

MODEL F-75-T
750 g.p.m. FWD Pumper — equipped with FWD safety cab.

PLUS Power and Traction — Greater Speed With Increased Safety in FWD Four-Wheel-Drive Modern Fire Fighting Equipment

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FIRE APPARATUS

There's no time for the "long way there" when lives must be saved and property protected. With FWD fire trucks, you take the shortest route, because you know *you'll get there* . . . because you'll get there *fast.* FWD's four driving wheels get you started quicker . . . pull you up steep grades without losing speed . . . hold your course better. And where the going's tougher — with back wheels pushing and front wheels pulling you'll drive through hub-deep mud or sand . . . through snow that's over the bumper . . . over terrain where only FWDs can go. *Write for literature describing great new FWD fire trucks — triple combination pumpers in 500, 750 and 1000 g.p.m. capacities, and the F-50-R designed expressly for rural fire fighting.*

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